

ΠΥΡΕΤΟΛΟΓΙΑ,  
O R A  
HISTORY  
O F  
FEAVERS.

COMPOSED

According to such use of the Parts, Circulation of the Blood, and the various Offices both of the Lymphic Liquor, and Nervous Juice, as have been the happy discoveries of Modern Anatomic.

TOGETHER,

With a more particular description of the uses of the Spleen and Pancreas; As also of the manner of Natures proceeding in the several motions of Fermentation, and Ebullition, then hath been formerly divulged.

Τὸν πυρετὸν νόσῳ καὶ τῷ τῷ νόσῳ πᾶσι ἔσθι.  
Sylus τῷ νόσῳ ἀλλοτρίῳ νοσήσαν: Hypocrat. Lib. de flatibus.

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L O N D O N,

Printed for Robert Clavel in Little Britain,  
1674.

HYPEROTIA

AND

HYSTORIA

OF

FEARS

COMPOSED

According to the History of the British Church:  
from the first of the Kings, and the various  
of the British Church, and the various  
of the British Church, and the various  
of the British Church, and the various



With a new particular description of the life of the  
Bodleyan Library. As also of the manner of its  
after proceeding in the several members of the  
Bodleyan Library, and Education, then has been for  
many years.

Printed by J. Sturges, at the Sign of the Anchor, in the Strand.

LONDON

Printed for Robert Dodsley, in Pall-mall.



To the

# R E A D E R.

**A**lthough the number of Books in most Sciences have in this inventive Age found an unnecessary multiplication, and that Physick also as well as other Arts hath had its share in this impertinent superfluity: yet I presume there is no man whose abilities render him a competent Judg, but when he shall seriously consider the many defects, which (maugre the industry of former Ages, or the worthily celebrated discoveries of latter times) are yet too apparent even in the most able of the Profession, but will with some regret acknowledge, that not only in the ensuing Subject, but in several other parts of that noble Art; there is yet a farther and more accurate discovery required. A task, which although I am not guilty of so much Arrogancy, as to think my self of ability to perform, especially when so many of more profound Learning and larger Experience have

## To the Reader.

left it unattempted: yet, when reflecting upon the necessities of doing it, and considering that such Eminent persons from whom it is expected having Employments futable to their Merits, are most of them (for the excellent and elaborate Works of some forbids me to say all) by that deprived of those vacancies requisite to more contemplative studies, their time (with greater advantage to their private Interest) being wholly taken up in the painful and active part of their employment: Wherefore despairing of being better informed in this doubtful part of Physick than we already are, after a tedious expectation of it from some abler Pen; I at length ventur'd on the ensuing Subject, with what success, I shall leave to the Censure of all Judicious Readers. I doubt not but that I shall meet with enough whom an Elated Opinion of their own perfections makes apt to mistake themselves for such, and amongst those self-conceited People, some whose ignorant emptiness carries them with a swifter sail to those undertakings, than such whose well ballanced Judgments are fraught with the weightiest treasure of solid Learning: but I shall give those light plumed fancies leave to soar where they please, whilst I slight their shallow noise with as much contempt, as I honour the grave, and sober reproofs of ingenious persons. For though I have humility  
enough

## To the Reader.

enough to submit to the Censure of such, I shall not so much undervalue my self to take every trivial presunder for one of that number; But rather conclude, what displeases them (like fair Objects beheld through false Opticks) rather proceeds from a defect of their judgments in not rightly understanding what they read, then from any fault of mine in not regularly delivering what I have written. I may here perhaps be condemned for exposing my self to the Censure of such, by writing in English, the Mysteries of our Art being prophaned when they are, without a Veil, prostituted to the view of every vulgar Eye. For which act notwithstanding I think I need no other Apology then the Subject it self will afford me, it being only the Historical part of Feavers, and such as rather aims at discovering their causes, of which it is fit, that all understanding Persons should in some measure be informed, then prosecuting their Cures; the peculiar Province of an Experienced, and Learned Physitian; For which reason I think it no abuse to the Profession, to deliver things of so general a concern in Language intelligible by those for whose sakes it was chiefly composed; There being many that (even in this case) are competent Judges of what is grounded on reason (which is visible that I here rather take for my support, then Authority) although

## To the Reader.

though the unhappiness of their Education was such, that it rendred them defective in the useful Embellishments of Scholastick Languages; an ornament, which although Art can never look gracefully without, yet it sometimes (like handsome Garments on ill shaped Bodies) meets with judgments so shallow, that they rather debauch it to a pedantick impertinency, and make it an Asylum for their easily conquered reason, then preserve so excellent an accomplishment in that Grandeur its worth requires. On which grounds as I thought the present History fit for the view of any meer English Reader; so, if ever I proceed further, and according to this Hypothesis deliver my Opinion in what concerns the Prognostick and Therapeutick part of this Disease; I shall have those Arcana of my Profession in more Veneration then to render them the easie conquest of every illiterate undertaker.

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A

# HISTORY OF FEAVERS.

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## C H A P. I.

### *The Definition and Devision of Feavers in General.*

#### The Contents of the Chapter.


*The reasons that induced me to make this inquiry into the nature of Feavers. §. 1. For what cause I dissent from most of the Opinions maintain'd by other Authors. §. 2. 3. Fermentation and ebullition, what they serve for. §. 4. The blood cleansed from external impurities by the one, and from internal by the other. §. 5. The General definition of a Feaver: The perturbation the Heart feels in a Feaver different from Palpitation and other disturbances of that part. §. 6. Some objections touching the definition answered. §. 7. What impurities the Blood is subject to without a*

B

Feaver.

## The Definition and

Feaver. §. 8. Why Scorbutick people are less subject to Feavers, then Bodies of a sound Constitution. §. 9. Why I rather define a Feaver, by a Perturbation of the Heart, then by a preternatural heat, or morbisick Fermentation. §. 10. The perturbation of the heart from nature's endeavoring to remove something hindring the free circulation of the Blood. §. 11. All Feaverish disturbances in the heart from an accumulation of some Heterogeneous particles in the mass of blood. §. 12. The distinction of Feavers to be from the matter Offending, the manner of that offence, and the accidents thence resulting. §. 13. The difference between continent and Pestilential Feavers from the form of the matter. §. 14. The difference between continent and Periodical Feavers, cheisly as the one is from an error in something that ought to be ejected, the other from what ought to be depurated.

§. 1.  Although nature hath not any enemy of more danger to human Bodies, then the disease we at present treat of; yet not its own frequent assaults, nor the Auxilliary forces it sends in to attend other distempers, would prove near so formidable as now they are, were Art but better provided to give Nature her assistance in withstanding it. The consideration

ration of which ( although no affecter of novelties ) hath induc'd me for my own private satisfaction, to the Collection of the ensuing notes; which as I shall not seem so fond of any former Author to turn Plagery, and plunder the Conceptions of his Brain; so I shall not on the contrary be guilty of so much vanity, to contemn what I find worthy the imbracing, even in the meanest Author. For such notions, whose novelty may on the first view make them appear as Paradoxes, I shall desire those into whose hand these Papers may come, to consider before they condemn them; and if when seriously weigh'd, they shall to any competent judge appear too light to prove what they were intended for, I am no such Admirer of my own Fancy, but I shall submit to better inform'd judgments.

§. 2. That I may not ( in the mean time ) lead you into new pathes, before I alleadge some reasons, why I desert the old; I am to let you know, that after a tedious survey of most of the Galenical authors, finding all of them, without any considerable difference, more then in some small varieties of method, handle the Doctrin of Feavers, according to the common Definition of an *intemperies calida*, or a hot Distemper beginning in the heart, and by the mediation of the Veins and Ar-

teries, communicated to the whole Body. By which Definition they seem to take *Heat* for the Essential part of the Disease, making all its varieties of putrid, and imputrid, continued, intermitting, &c. but the several modes, by which, either from the various scituation of the matter, or manner of the Bloods accension, that heat makes it self manifest. All which being but assertions meerly Conjectural, gives their unwary Readers no other apprehensions, but that heat alone is the Fundamental Principle, on which all the other accidents happening in Feavers depend ; which being such a fallacy as givesto an accident those Attributes only proper to a substance, rather discovers what a Feaver appears to be in the heedless remarks of vulgar apprehensions, then what it really and essentially is.

§. 3. Being led by these considerations, not only to relinquish the Opinions of the Antients, as to the causes, and Diagnostick part of Feavers ; but also, ( as superstructures raised on a false and infirm Foundation ) both their general and particular Therapenticks : for my better Satisfaction in so dubious a point I betook my self to the like diligent perusal of more modern Authors ; amongst whom, although I found many things worthy my admiration ; yet several of their Opinions, on the

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exactest Observation my slender abillities were able to make, appeared not in all Particulars fo consentaneous to truth, to oblige me to an absolute affent. Since their Works are in moft mens hands, that pretend to Phyfick, I fhall not trouble my felf with Particularly nominating any of their dogma. What I adhere to, or reject, I fhall leave to be difcovered in the following lines; where, with as much brevity as the difficulty of the fubject will permit, I fhall ( although perhaps with no better fuccefs then thofe that have preceded me ) proceed to difcover my own.

§.4. The Denominations of Feavers being by Ancient Authors rather taken from the effects then the caufes of them, difcover no more of the Nature of them then what is obvious to every vulgar eye; the words *πυρρὸς calor*, *fen igneus æftus*, *Ἀπυρξία febris carentia*, and *πυρρὸς febrilis*, *vel cum febrili calore junctus*, being all derived from *πῦρ ignis*, fufficiently argueth that they placed the absolute effence of it in heat, which fome of the Latines difliking, derive a *Febris*, a feaft of the Romans: from whence our Month *February* alfo takes its name, *quo ab omnibus Piaculis urbs luftrabatur*; fo making a Feaver *quafi Purgatorius corporum ignis*, the Original word being derived a *Fervendo*. All which diverfities,

arising from their mistaking the nature of Feavers, omitting as impertinencies, I shall here only make it my inquiry, to know whether a Fever be an ebullition, Fermentation, or commotion of the Blood, or rather what we understand by these terms be not only the various appearances (discernable according to the time and motion of the Disease) of that noble liquor, whilst by one of these means it is endeavoring its own depuration. It being certain, that although any of these several sorts of motion may, according to the present temper of the Blood, be discoverable in a Fever; yet neither of them are so absolutely necessary to the essence of it, but that the disease may on the presence of any one of them have its existence without the Society of the other: which shews them to be no more than instruments, which nature makes use of, for the segregating something that is *heterogeneous* from the more natural and consimiliter parts of the circulating mass; and consequently neither of them so necessary to the essence of a Fever, to give it its Denomination in general terms.

§. 5. Having thus rejected all sorts of commotion of the Blood, whether perform'd by way of Ebullition, or Fermentation, from being that which we are to define a Fever by; yet

yet since it is apparent that there is no Feaver, of what Type soever, existent without the presence of one of them; we are in the next place to consider, what it is that puts them into action: in doing which, a diligent Observation will easily informe us, that it is from the present temper of the Blood, and humour, that they are incited either to an Ebullition, or a Fermentation, according as the morbidick parts, that disturb it are by their Position adapted for expulsion, these exotick particles sent into it from some external cause, as Contagious vapors floating in the Air, immediate error in some of the six Non natural things, and ( for reasons I shall declare in their proper place ) rather choosing to extricate themselves by ebullition; as on the contrary, such impurities as have been contracted from any of these assisting parts of the Blood, we call humours, as they begin the Combate from something within, which, either from an undue retention of what should have been ejected, or a Preternatural readmission of what had been formerly cast out, is become Peccant; so it endeavors to expel those troublesome enemies by putting the whole mass into a violent commotion, but such as (being more proper for the expulsion of intestin enemies) discovers it self rather by the deliberate and gradual way of Fermentation, then the more violent one of ebullition.

lition. All which seriously considered, hath induced me, ( rejecting the former Definitions ) as most agreeable to those notions I have conceived of a Feaver, to adhere to the following.

*A Feaver is a Perturbation of the Heart arising from its endeavoring to expel something, which by a Morbifick position of its parts impedes the free Circulation of the Blood, and puts its whole mass into a violent agitation:*

§. 6. To make the truth of this Definition the more manifest, it will be necessary, ere I proceed, to answer some Objections, that may be made against it; as first, if a Feaver be defin'd by a Perturbation of the Heart, how it comes to pass that sharp Cardialgiaes, violent Palpitations, and many other Diseases, afflicting that noble part, are often existent without any apparent Feaver. Secondly, if this Perturbation be only for the expulsion of of some Heterogeneous parts mixt with the Blood, that on any other accidental contamination of the Circulating mass, which we oft see in Scorbutick, Hypochondriack, and other Chronick Diseases, nature indeavours not the same ways of defecating it.

§. 7. To

§. 7. To the first of these I answer, that as the motion of the Heart in all sorts of Feavers is very different from what it suffers in Palpitations; so likewise hath the matter, that causes either of them, a Proportionable variety; what troubles it in Feavers being an impetuous motion of the vital Spirits, whilst in the Vehicle of the Blood they are giving chase to their intruding enemies; what in Palpitations either an unequal or interrupted Flux of the animal Spirits, or such a deficiency of vital to supply them, that in defect of those vivifying rayes the dispirited Blood becomes apt to restagnate about the Precordia, threatens to suffocate the vital Flame; which nature endeavoring to prevent in her now languishing state, doth it by such weak and often reiterated attempts, that instead of a regular motion, only puts it into this imperfect tremor. From all which, it is manifest that Palpitations, Syncopes, are rather the products of such saline Distempers, as render the Blood overfixt and vapid, so by their defective motion hindring a communication of the vital flame between the Heart and Brain, which deprived of its lucid Spirits suffers a kind of Eclips, then from any offence incident to the disturbance given it in such Feavers, as are not accompanied with a more then ordinary malignity,

§. 8. In

§. 8. In answer to the second of these Objections, although I shall not deny, but that the Blood is oftentimes very impure, without any Feaverish Distemper existent; yet if we rightly consider the nature of those impurities, they very much differ from that, which render it so in a Feaver; they being such, as neither have their Original from any of the assisting and Humoral parts of the Blood, as all Periodicals have, nor from an immediate error in any of the six Nonnatural things, as in the manner of continent Feavers; but are rather such, as only appears impure from the yet unassimilated Chyle, and is often ( ere Concoction is perfected ) found in the Blood drawn from the Veins of healthy Bodies; or ( which is much more common ) this foulness proceeds from particles, which although perfectly Heterogeneous, and such as by a small variation of their position might cause a Feaver; yet in their present state they are not capable of doing it, the Blood being here either too much impoverished of Spirits, to indeavour the expulsion of her numerous enemies; which is often the state of the Body, when weaken'd with some preceeding sharp Disease; or else a saline Diathesis hath so fixt it, as to render it incapable of suffering those few Sulphureous parts remaining to be put into action: examples of both which are to be seen in Scorbutick and

Cachectical people : in the one of which the Blood hath not enough heat to kindle it into a flame ; in the other igneous particlee are fo wrapt up in their faline afhes, that without a great Reluctancy they cannot be put into action.

§.9. Befides both the foremention'd ill habits of Body, the impurities of whose blood is notwithstanding uncapable of being depurated by a Feaver; there are yet another fort of people, that although their temper be fuch, as to render them fubject to frequent intemperate heats, and often to flight Feaverifh Diftempers; they are however rarely affaulted with a real Feaver. And thefe constitutions of Body we find in fuch whose Bloods are too rancid, rendring them apt to that fpecies of the Scurvy writers terme Nitrofulphureous : In whom the Blood being eafily apt to take fire, the Morbifick particles are with the like nimblenefs put in action, and confequently on every flight occafion depurated. By reafon of which, although the whole mafs of Blood be at moft times in fome diforder, from whence proceeds a Sickly habit of Body, from the depraved ferment the arteries continually fend into the Stomack: yet Blood thus qualified being on the fmalleft addition of Heterogeneous matter, put into a Febrile and irregular motion,  
it

it seldome suffers the vessels at any time to be so over-charged, to containe matters enough for a greater disease, then what is either by ebullition or fermentation (according as the Heterogenities that burthen it are adapted for expulsion) carried off in these slight but frequent Skirmishes; this being the ordinary temper in Hypochondriack, or the beginning of Scorbutick diseases, either of which when they are more deeply radicated, although then the taint is more firmly imprest on the mass of Blood, have notwithstanding (although from a cause far different from the former) the same (or rather a greater) ineptitude to attempt its depuration by a Febril motion. The reason of which is, that the Blood in this state of Body is so enfeebled, either from an accumulation of rancid and impure Sulphurs, and such as are now become too Fuliginous to be very apt to kindle, or else from a saline Diathesis (like Wines grown ropy) that it becomes fixt, and rather apt to restagnate then to be volatilized into a Fever by any either external or internal disorder; This being that unhealthy state of body, we find apt to fall into lasting and Chronick Diseases, from great Obstructions of all or most of the Segregating Viscera; which although frequently the products of long Continued or ill cured Fevers, seldom or never proves the cause of any,  
nature



nature being in this state of Body too much impeded by Obstructions to indeavour any fuch way of reliefe; which when ſhe doth, it is an argument, that ſhe begins to recover her liberty, and to expel thoſe impurities, which whilſt contaminating the Blood without a Feaver, argued its volatile parts ſo depreſt and languifhing, that ſhe was forc't to lie dormant for want of ſtrength to defend her ſelf.

§. 10. Having to my own preſent Satisfaction answered theſe Objections, as the moſt likely I can apprehend to be raiſed againſt the Definition I have given of Feavers, I ſhall now more fully demonſtrate what reaſon induced me to the electing of it. Having then placed the Perturbation of the heart, as a genus of all Feavers, of what Type ſoever, I ought firſt to render ſuch reaſons for that opinion, as may make it more eligible, then the formerly uſed terms of Preternatural heat, or a Morbifick Fermentation, by the one or other of which it hath been alwaies defin'd, although neither of them (as I ſhall make more apparent in the following Diſcourſe) are terms extenſive enough to comprehend every Particular ſpecies; for Fermentation is often ſeen to a conſiderable height in ſeveral diſeaſes that have no concomitant Feaver: much leſs is the eſſence of it to be placed in heat, which as an  
accident

accident cannot subsist without its substantial basis; and that in all Feavers can be no other then what imparts such a volatility to the blood, as forces it to an over-violent motion, which being an action properly belonging to the Heart, and (as I have elsewhere demonstrate) perform'd by that violent concussion & dilatation given it in the Systole and Diastole; on that accelerated motion depends the absolute existence of the Fever, and not on any preceeding foulness of the Blood, that (as I even now made appear) often hapning, when the Heart hath not vigour enough so to refract them in its concussion to cause a Fever, nor so to volatilize its igneous atomes by any violent motion (which is the Perturbation here meant) to disperse it through the Body in that heat, which although a Symptome, is commonly mistook for the disease.

§. 11. That this Perturbation is caused by natures indeavouring a remove of some such Particles, as by their Morbifick Position impeded the free Circulation of the Blood, and on whose expulsion the indications curative Principally depends, is the thing next to be proved. In clearing which we are to note, that as both the generical and specifical differences of all Feavers, depends on the various formes of these Particles; so their more full  
dis-

discovery is to be taken from the Chapters where they are particularly handled; it being here no farther necessary to treat of them, then in such general terms, as lets us know; as those whence all continent and Pestilential Feavers do proceed, are conceived to have their Original from an external agent, so their tendency to Despumation is by the violence of Ebullition; whilst such as are generated from something alwaies existent within the Body, prosecute their exit by the more gentle way of Fermentation. Both which motions have notwithstanding such a Correspondence to our former Definition, that as they prove the essence of a Feaver to be the Perturbation of the Heart, so they declare the material cause to be Heterogeneous particles mixt with the Blood; and the formal, the inordinate motion raised from natures indeavoring their expulsion.

§. 12. Having thus made it appear that the Heart is the subject, whose Perturbation gives all Feavers their essence, I am next to look so far into the nature of the matter offending, and the manner of that offence, from whose several varieties the accidents depending on that subject proceed, as from them to distinguish all sorts of Feavers in their general and specifical difference. In performing this

we are to consider whence this Febril matter is conveyed into the mass of Blood, and whether any such mutation can happen without the Accumulation of some corporeal Particles in the Circulatory mass; which being by all acknowledged it cannot, but such as adhere to the vaine Phenomena of qualities changed, I shall take no farther pains for the Proof of a truth so manifest, but proceed to examine whether this matter hath its Original from something within us, made peccant for want of due Concoction, or timely separation; or from some extraneous matter; both of which, although the causes of Feavers, yet the former seems to be much more frequent. The reason of which will be apparent to all that are vers'd in the use of those segregating Vessels ordain'd for the depuration of the Blood; since they may easily be induc'd to beleive, that if there be a defect of separation of what hath been by frequent Circulations turn'd into the nature of an excrement, the readmission or retension of it in the Blood cannot be without such a disturbing reluctancy, as must put it into a Preternatural motion, as violent, for the ejection of what was once a compleating part of her self, as if it had been begun by something Communicated *ab extra*; especially such of those exotick intruders, as are not stigmatized with any venomous Miasma.

For

For these also, as well as the internal Principles of Feavers, have likewise either their particular variations of Figure, or that part of the Serum, which becomes their vehicle, of a difference commensurate to that variety of Feavers thy cause; so that though they have the heart for their common subject, the difference of all Feavers is so great, that no Fermentation of humours, preternatural heat, exotick spina, or any Putrefaction, either within, or without the Vessels, is sufficient to demonstrate their several Phænonema: for the more certaine discovery of which, we are to consider it in a threefold manner.

Either in  $\left\{ \begin{array}{l} 1. \text{ The matter offending.} \\ 2. \text{ The manner of the offence.} \\ 3. \text{ The accidents thence resulting.} \end{array} \right.$

§.13. For the first of these its several varieties cause three generical differences of Feavers, where the matter hath a total disparity, as in these specifick varieties, into which they branch themselves, it is only partial: An example of all which, with the accidents thence resulting, is discoverable in the following Scheme.

## *The Definition and Periodical Feavers.*

## I.

A Tertian, from a Morbifick commotion of the Bilious or Sulphureous supplies of the Blood.

Humoral or Periodical Feavers, being such, as are caused by an Excrementitious matter, either the Preternaturally retained in the Blood, from its own weakness, or return'd into it by the defect of some segregating Vessels, are divided into three sorts.

From either of which, a continued, or intermitting, is produced, according as the matter is either detained in the Blood, or unseparated after ejection.

## II.

A Quotidian, from a deficient assimilation of the chile, and a predominancy of Putrefactive Phlegm.

## III.

A Quartane, from an undue Fermentation of the fixt or saline part of the Circulating mass.

As these are the causes of Periodical Feavers; so the diseases which ordinarily succeed them, are such, as have their original from a defect, either in the exaltation, or depuration of the Blood; whence its saline parts set at liberty, they by impeding a free Circulation are Authors of those Obstructions, whence Hypochondriack and Scorbutick distempers proceed.

*Division of Feavers.*  
*A Febris Synochus.*

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I.

Into an Ephemera either of one or more dayes, from a deprivation of that part of the Serum sepe-  
 rable by Sweats.

In all which, as the matter disturbing the natural motion of the Blood had its original from an external error; so nature rather inclines its exclusion by the violent way of ebullition, then by the more natural of Fermentation.

A Synochus, or continent Feaver, properly a Feaver, stirred up from a Miasma, imprinted by an external agent either in the Blood properly so called, or its serous vehicle, is divided into three sorts.

II.

Into a putrid Synochus from a total confusion of all the Particles composing the Sanguinary mass.

III.

Into a caufus, or burning Feaver, from an overviolent exaltation of the Sulphureous and inflammable parts.

From the extream torrefaction & adustion of the Blood succeeding either of these sorts, the nutritimental juice being by over-coction render'd unfit for nourishment, as not assimilating with the parts by reason of the deficiency of the spirits, prove the ordinary forerunners of lasting Hecticks, or pining Atrophias.

## The Definition and Contagious Feavers.

### I.

Pestilential, or at least  
Malignant Feavers,  
from an impregnati-  
on of the Atmo-  
sphear with veno-  
mous effluvi-  
ums.

### II.

From veno-  
mous effluvi-  
ums. A semi-  
nal taint in our  
Blood. Or some  
signal alterati-  
on of the Air,  
branch them-  
selves into

Such contagious dis-  
eases as spread their  
infection by some  
thing that hath a  
nearer similitude  
with our nature, as  
the small Pox, Mea-  
sels, &c.

### III.

Epidemick Feavers, or  
such as from the at-  
tending Symptomes  
we call new dis-  
eases.

In either of  
which, especi-  
ally those of  
the first rank,  
any prece-  
ding ill ha-  
bit of the Bo-  
dy, or er-  
ror commit-  
ted in the  
progress of  
the disease,  
proves com-  
monly mor-  
tal.

As each species of these diseases have a vast difference amongst themselves, according to the nature and proportion of the introduced effluvi-  
ums, so do they also appeare under a-  
ny of the foremention'd Types of ordinary  
Feavers.

§. 14. These



§. 14. These being the several varieties by which the matter offending in Feavers constitutes their generical differences; referring the manner of the offence, which specifically distinguishes them, to their peculiar Chapters, I shall ere I conclude this, deliver the reason why in this general description, I not only omit many that were mention'd by former Writers, as an *Affodes*, *Elodes*, *Syncopulis*, *Lypiria*, *Epiala*, and the like, but also (what was by them taken to be one of the principal Branches into which Feavers were divided) a Hectick. For which omission (Although I shall not peremptorily maintain such a Paradox against the unanimous consent of so many Celebrated Authors, as in all Ages have held the contrary) I shall notwithstanding offer such reasons as may perhaps satisfy the judicious and considerate Reader to the contrary. If we then but seriously observe those Symptoms by which a Hectick is discoverable, as a low and feeble Pulse, an ineptitude to motion, a languishing weakness over the whole Body, dryness of the skin, a pale and livid complexion, with a general decay of the parts; and yet from all this the stomach not much debilitated, the rest but little interrupted, nor the Urine much discolour'd, it will appear more agreeable to reason, that as we are to look on those other Distempers as the Sym-

ptomes of a Feaver present, so we are on this as a relict of one preceding; it as ordinarily ensuing on an ill-cured Synochus, as the Scurvy or Hypochondriacal distempers do to Continueds; the Fermentation in one being not more apt to render the humors either rancid or saline, then the conflagration in the other is to reduce the Blood to an unnutrimental and dispirited Liquour: in which state it rather lets the lamp of life decay for want of Oyle, then consumes it by any Febril heat; the Blood being here neither put into an Ebullition from any exotick Sulphurs, as in Continents, nor into a Fermentation from internal impurities, which is the sole cause of Continueds. So that if a Feaver be a Perturbation of the Heart, and that never caused but by natures endeavouring to exclude some such Heterogenous matter, I cannot see to what material cause of that kind a Hectick can be imputed, it rather seeming (as all other diseases succeeding Feavers) to have its Original from a depravation of the old matter, then an addition of new, being the off-spring of those embers of natures fire, which the heat of the Feaver hath deprived of all its Balsamick and Nutrimental supplies; in defect of which, the vital spirits being too few to give their assistance either to the Preparation of the chile in the first region, or to its assimilation when sent into the Sanguinary

guinary Veffels, the body languifhes in a continued Atrophia, till at length reduced to a Skeleton : in the whole progreff of whole declining condition, neither the accelerated motion of the heart, extremity of heat, fwiftness of pulse, height of the Urine, or any other demonstrative figne of a Feaver is visible, but rather what seemes to carry an absolute contrariety to that active disease, a retardation of the whole Circulating mass, whose motion (except the unaffimilated chile and depraved phlegm produces a Quotidian; or the foule effluviūms of some internal Ulcer, a Symptomatick Feaver) is so far from being promoted to a febrile fwiftness, that it is rather a defect of it that hinders both the regular distribution of the nourishment, and of a sufficient stock of those irradiating spirits, by whose vertue it becomes useful to the conservation and augmentation of the parts. If any shall here object that those incinerated Particles of the Blood the former conflagration had left, are parts Heterogeneous, and consequently must incite the motion of the heart for their expulsion : they are to consider, that as the whole mass underwent the same violence, so the Morbifick particles are so blended with the other, and both of them by frequent Circulation so proportion'd to the pores by which it is to pass (as the matter

offending in all Chronick diseases is) that it transites the heart, without giving it a disturbance violent enough to cause a Feaver, without the intervening of some such accident as I even now mention'd; and then ( by reason of the laxity of its defatigated Fibers) with Paroxismes hardly discernable, yet, ( since such as raised for the expulsion of a Peccant matter) justly merits the name of a disease: a Feaver being not altogether according to the opinion of *Campanella: Medicinalium juxta propria principia. Lib. 7. Cap. 1. Tantum bellum contra Morbum, potestativa vi spiritus initum*: Natures strength combating the disease; a mistake that seems to be grounded on the Authors not rightly distinguishing between the essential part of it, which is the Perturbation of the heart, and its effects, viz. a Preternatural motion of the Blood, caused by its indeavours of discharging some dissimilar matter. On a serious consideration of all which, I rather incline to the Opinion of *Lazarus Meyssonnerius, de nova et arcana Febrium Doctrina*, pag. 6. of wholly rejecting any such species of Fevers as a Hectick, then of distinguishing this by being in *Habitu*, whereas others are in *Habitudine*; as also of taking their most demonstrative signes to be from a heat felt all over the Body after meales, and a total decay of the Flesh; the first of which is only from that disturbance nature

nature is put to on the distribution of the aliment; the next from so over-large exhausting the Balsamick parts of the blood, that the innate heat and radical moisture finding not Parts unctuous enough to feed the one, or nutrimental enough to supply the other, instead of assimilating matter for new nourishment, it gradually waists the former stock; and whilst it leaves no more fire in the lamp of life then what lies raked up in decaying embers, leads us almost insensibly to the grave. This being one of those fatal Harbengers of Death that betrays us to the regions of Darkness, without the louder Summons of a violent Sickness; the Mansions of our Souls being not shatter'd into destruction by the Hyrocane of an acute disease, but for want of réparations gradually mouldring into the ruines of mortality. This is the Dark-lan-thorn that conducts us unnoted to our eternal homes, and with so much silence steals us out of the World, that often their friends, sometimes the Persons concern'd, are scarce sensible of the Summons; those winding Meanders through which it waists us to the Grave, being in this treacherous disease so level, that till even dropping into the dust of death we hardly perceive our selves descending. All which consider'd in the manner of its progress, it rather seems its direct opposite, then to be reckon'd amongst the number of Feavers: That, by indeavouring  
the

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the expulsion of something dissimilar, putting the whole mass of Blood into a violent motion: This so retarding its natural swiftness, that it becomes too languid to disperse the assimilable parts of the aliment into the several parts of the Body; whence deprived of nourishment, that lamp life is gradually extinguish'd, which the violence of a Fever had blown out at once.

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### C H A P. II.

*How Feavers are distinguish'd by the manner of offending, viz. as one by Fermentation, the other by Ebullition.*

The Contents of the Chapter.

*Fermentation defined, with the difference between what is natural, and what Morbifick.*  
§. 1. *Fermentation from the alteration of some particles which at present have, or formerly had some Analogy with the matter to be fermented.* §. 2. *It is not a motion adapted for the separation of all sorts of Heterogeneous Particles from mixt Bodies.* §. 3. *It is not performed by spirits alone, without an association of some parts formerly of a consimilitude with*

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with it self. §. 4. The fermentative matter something that had formerly been of use, either for the exaltation or preservation of the Body whence ejected. §. 5. The matter either natural or Morbifick. Id. The cause of Ebullition from a congression of nitrous and Sulphureous parts. §. 6. The different qualities of heat and cold, from a dilatation or contraction of that elastick niter with which all Bodies are impregnated. §. 7. A neare similitude between the Sulphurs in our blood, and the Solar Sulphurs dilating the aerial niter. §. 8. How pestilential and Malignant Feavers cause ebullition. §. 9. The different operations of Fermentation and Ebullition illustrated by the manner of Purification and preservation of the juices of vegetables. §. 10. Fermentation frees the Body of parts not capable of being ejected by Ebullition. §. 11.

§. 1. **H**AVING said thus much of the matter offending in Feavers, I shall now proceed to discover, how they vary in the manner of that offence: which being, as they indeavour the purifying of the Blood, either by Fermentation, or Ebullition. I shall make it the business of this present Chapter, to shew the manner of operation in either of these motions, and how the varieties of Feavers are from thence produc'd, beginning according

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to the method observed in my former Scheme, with that of Fermentation; the manner of whose invasion, and how from thence it gives the Heart a disturbance, I take to be according to the following Definition.

*Fermentation is a motion by which nature indeavours the Congregation of such Homogeneous, and the segregation of such Heterogeneous parts, as either at present have, or formerly had some Analogy with the matter to be fermented.*

This being the Office in some respect formerly attributed to heat, I am first to make it appeare, that it more properly belongs to that change of mixt Bodies, which is discoverable in Fermentation, and that it was from thence those actions heretofore applyed to heat had their Original; Fermentation being the only instrument nature hath both to assimilate such Bodies as she is to make use of in her intended Productions, and to discharge her self of such as any wayes impede that work. This truth being manifest, not only in the Productions of vegetables, where the nutrimental parts are by Fermentation rendred capable of assimilating, and the useles ejected; but also in animals, whose first Concoction in the Stomack, and the future exaltations and depu-



depurations of the nutritive mass, are all promoted by the natural ferments, proper to the several Vessels it is to pass; in which, when they are not overcharged by any Heterogeneous and dissimilar parts, the received aliment is reduced to a substance fit for nourishment. Which work is performed with ease, when the matter to be fermented hath a similitude and apt proportion to enter such pores, as either the perfectly concocted chyle, or healthy constitution'd blood hath apt to receive it; but when by any preceding alteration, either in the indigested aliment, or the supplies of the nutritive mass, contained in the other vessels, the degenerate matter hath been depraved (as when unwholesome meats hinder a due chylification, or undepurated Blood impedes a perfect assimilation) then the matter to be cast off, as excrementitious, being much larger than what is fit for that purpose; nature is put to so great a trouble in separating it, that the overviolent Fermentation becomes Morbifick, and instead of being instrumental to nourish the Body, becomes the parent of a Disease.

§. 2. If any shall Object, that whereas we make fermentation to alter the position of some particles of matter, that either at present have, or formerly had an Analogy to the Body

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dy where the fermentation is made; being a Doctrine that in some mens Opinion seemes to be contradicted by our ordinary manner of nourishment, that, being either animals or vegetables, whose Bodies have nothing agreeable with ours. We answer, that here the mistake lies in our not rightly considering the minute matter of such nourishment; which when duly done, will ( whilst in a sound and edible condition ) be found to consist of such parts, as are in themselves reduceable to that Milky substance of the chile, which is the proximate matter of our nourishment; the aliment both of animals and vegetables being but productions of that Earth from whence we had our first Original, and consequently in as neare a capacity of assimilation with the chile, as the various products of that same chile are, when alter'd by their different streyners, of making one intire mass of Blood. Either of which Offices we find not rightly perform'd, when any preceding corruption hath vitiated the matter of our nourishment, or defective depuration tainted our Blood; both which happen either by receiving what is not fit for Concoction, or retaining what is not duly Proportion'd for assimilation.

§. 3. The difficulty of this question imposing on us a farther necessity of clearing it, I am next to prove that the true and genuine cause

cause of all Fermentation depends wholly on the indeavour of some such Analogical bodies, as we have even now mention'd, to re-enter their formerly possest Habitations; and consequently that ( according to our former Definition ) it is not a motion adapted for the expulsion of all Heterogeneous and discordant parts from mixt Bodies, but only of such as had a former consimilitude with them, which is discoverable by the ordinary progress of Fermentation in some of her most obvious Phœnomena. From the observation of which, it will appeare, that the particles of our Blood, although alwaies ( according to its present temper ) more or less of a Fermentative nature, do notwithstanding peaceably Circulate, till disturb'd by the introduction or retention of a matter fit to be ejected.

§. 4. For the illustration of this truth, observe how wort or meale, although both of them Bodies full of Fermentive particles, do never the less rest quiet and undisturb'd, even till fixing their unactive Spirits gives one of them an ungrateful acidity, and the other too close and Unnutrimental consistence, unless they are incited to a Fermentation, by adding to either of them some such parts as were formerly of a consimilar nature with them.

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themselves ; the Barme we put to the Wort being a congeries of many small Particles of a Body of the same nature; and although it contains in it many of those turgent Spirits that were instrumental in excluding it, the addition of them alone without such small corpusculary parts, as hold some Proportion with the Body to be Fermented, would notwithstanding the force of the Spirituous Agent remaine dull and unactive : since if the Spirits alone were the cause of Fermentation, it might be performed as well by those as had not any such Analogy to the body to be Fermented, the contrary to which our daily experience evinces. Whence I conclude, that all Fermentation, as it is only natures indeavour of a depuration of something grown impure, so it hath its production from such a mutation of the ejected parts as renders them incapable of re-entring pores disproportion'd to themselves, without the exercise of so much force as gives the adjacent parts of the same Body a disturbance, but such as if the particles indeavouring a re-entry have no great dissimilitude to those pores toward which they tend (as those of barme, or moust of wine, have not to the juices of any vegetable of a vinous nature ) they do in a short time, and without much trouble, repossess themselves, and consequently proves that sanative and healthfull motion  
which

which only frees the fermented liquor of a Morbifick, or at least a redundant matter, and so only cleanses that which its remissness had rendered impure, or its excess dispirited, whilst the medium makes our liquor Potable, and our Chile and Blood nutrimental ; our Bodies as well suffering Chronick diseases from its too slow proceedings ; as acute, from its too much activity ; neither of which hap'ning, without there be either a defect of spirits to manage these minute engines, or the multitude of those Bodies so great that they cannot be disposed of without so much violence, as changes the natural into a morbifick Ferment. Neither of which, the cause being the disproportion of the matter, or the disabillity of the agent, Fermentation is still so farre from meriting the obloquy of a disease, that even in the most violent disturbance it gives the body, it is but natures instrument to throw out what oppresses her, and so by a short continued Feaver discharges the Body of what otherwise might have been the cause of a more lasting distemper.

§. 5. To render this doctrine of Fermentation the more usefull to our present purpose, we are farther to consider, that those variously compos'd particles of the circulating mass, to which we give the terme of humors,

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when ( being mixt with the Blood, they have performed such their Offices, either of exaltation or preservation, as I have elsewhere proved they do ) they cannot but be in the doing it much altered in their position ( the most probable cause of the different qualities we see ) and by that meanes become either fit to be ejected by transpiration, or sent to some vessel ordained for their segregation, there to be seperated from the more useful parts of the nutrimental mass. Which office not duly performed, and the excrementitious parts, either by some obstruction not timely cast out of the mass of Blood, or, that being done, not rightly carried off by the foremention'd seperating Vessels, but that a part of it is againe re-imported into the Blood, where, by reason of its degenerate and excrementitious condition, finding all its pores disproportion'd and unfit for its reception, yet (by reason of its former congruities ) not altogether discordant, as Bodies with which it never had any such similitude, in the same manner as the particles of Barne do into the wort, it indeavours a re-entry; which, if the disproportion be not too great, or the number of those Heterogenous Bodies too large, it either speedily performs, or else it is by the activity of the Spirits ejected in some such evacuation, as gives nature no remarkable disturbance,

bance, ( that being the temper of body in the beginning of Hypocondriack, or slight Scorbutick Distempers ) but if the matter be too large to be so carried off, as it is often in healthy Constitution'd people, who by reason of their florid and Aerial temper of Blood, are furnisht with more receptacles to entertaine it; the Fermentative motion being not begun in such bodies, till the matter to be carried off becomes so large, that its remove cannot be attempted with a motion less violent then what gives the Body that disturbance we call a Feaver; but such whose first assault being rather with cold, then heat, argues the parts primarily moved, not to be the most tenuous and agil, which are proper Instruments of Ebullition, but the more humoral & dense, such as, till teneified by Fermentation, had not activity enough to put their internal Sulphurs in motion: which once by their Fermentative nature attain'd to, the heat, ( as an accident depending on that motion ) becomes not less violent, then in the most speedily assaying continent Feaver; where the Febrile particles having their first admission into the most easily penetrable parts of the Circulating mass, the conflict begins with a sudden Ebullition. The cause and process of which motion, and how it differs from Fermentation, I shall demonstrate in the following Sections.

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§. 6. What those extraneous Bodies are, that by their Preternatural admission into the mass of Blood, begins that violent and sudden conflagration we see it assaulted withall in continent Feavers, will be best discovered, by our observing the motion by which Ebullition is perform'd, even by the common agent of culinary Fire; since this being by the admission of subtile and igneous particles into the texture of Lympid bodies, its Office is either by forcing of their most easily seperable parts to deminish their quantity, or to extrude by its agillity some formerly entred extraneous Bodies more dissimilar then it self. For either of which performances, the igneous particles, without a conjunction of the Elastick niter Communicated to it by the ambient Air, would be insufficient; there being such a mixture even in the most aqueous and unactive Bodies before any Ebullition can be made; and if so, much more in the Blood of humane Bodies, which is a substance by its natural texture more susceptible of such particles, then most other naturally liquid substances are, although that Susceptibility also is vastly different, according to the texture of the Blood; that of some persons, by reason of the looseness and wideness of pores, being more apt to entertaine both the Heterogeneous matter accidentally floating in the Air, whence often pro-



proceeds those sudden distempers we call Ephemeræ, as also a greater part of its natural Elastick niter by whose continued intermission, and aptitude to expansion, that Ephemeræ is often converted to an imputrid Synochus. Either of which Perturbations, if they find in the Blood no Bodies more dissimilar than themselves, when a short Conflagration hath wasted their stock, are extinguish'd; but if they meet with such impurities, as cannot be cast out, without a longer Conflagration, the Type of the Fever alters, and the whole mass of Blood by so violent an Ebullition is reduc'd to that troubled and impure state we call Putrefaction. For the clear manifestation of which truth, it will not be from our present purpose in a brief digression to take something a larger view of the nature of heat, and the cause of Ebullition.

§. 7. Whereas I have even now intimated, that the different qualities of heat, and cold, do proceed from the dilatation and contraction of the nitrous particles, wherewith not only the Air, but the Earth, Water, and all other sublunary Bodies are impregnated; the Earth being its clothing, the Water its vehicle, and the Air the Theater, where it encounters its Male consort, the fructifying solar rays; all corporeal beings having their Original from a congression of saline or nitrous

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Effluvia from the Earth, and igneous from the Sun ; which either in the Air, the hand-maid to the first, or in natures inferiour receptacles, where Water becomes a convey to more dense Bodies, these discordant parts of the universe, by the mediation of the Air and Water, become fit for Conjunction ; it being by vertue of this Office of being a vehicle to such Salts, as impregnate the Bowels of the Earth. Which gave occasion to *Thales Miletus*, *Van Helmont*, and others, to derive the Principles of all Corporeal Beings from Water, which they might with more reason have lodg'd in the Air, the first Rudiments of life being there more really apparent ; as is Demonstrable from the recruits, the *Primum mobile* of life and motion, the vital Spirits receive by its inspiration, without which all the grosser aliment, where the nutritive vertue is lockt up in too dense a vehicle, would rather suffocate, then nourish. It being probable that those nitrous Effluvia are no other, then the Perennial emanations of that central Fire, which on the first division of the Chaos, ( whilst the most active part of it betook its self to the globe of universal light, and Fountaine of natures heat, the Sun ) being too much invellop'd in grosser attomes so speedily to extricate themselves, lye there a sleep, till attracted by his connatural rays to a Conjunction,

tion, with which having an innate propensity in their indeavours to do it, they deserting their dark receptacles, carry with them both from the Earth their matrix, and the Water their common vehicle, so many parts consimular to both, that their association giving a check to those languid attomes of natures fire, their first entrance on her stage is in such a saline disguise as proves a remora to their activity, till emancipated by the Solar Sulphurs, on whose Conjunction discovering their original, they become the Female parent to natures noblest productions. This property of Niter, together with its concealing the active particles of fire under the gross vaile of a saline Body, being evinced by many of the ordinary operations of Art, its elastick faculty on its conjunction with Sulphurs being not more demonstrable on its violently expanding the air, then it is in assisting the actions of vitality in animals, or the growth and dimensions of all vegetables.

§. 8. To make this not unuseful digression in some measure subservient to my present business, it is not difficult to conceive the Analogy between these operations perform'd within our bodies, and such effects of the nitrous emanations and solar effluvioms, as are visible to us on its larger Theater; there being a great probabillity, that not on

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nuance of the Systole and Diaſtole of the heart, the motion of the Blood, and other the more immediate requiſites of life, but even the obſcurer proceſſes of aſſimilating the nourishment to the parts, the Concoction of what we receive from that nourishment, and perhaps ( what is ſome degrees above it ) the conjunction of the ſenſitive ſoul to a being more groſs and corporeal, depends wholly on theſe nitrous particles drawn in by inſpiration; ſince they, beſides that portion of the ſolar ſulphurs we attract with it, meeting within us the perennial effluvia of the *Calidum innatum*, which ( like the Sun in the Microcoſme ) whiſt we are within the confines of humane life, are the perpetual preſervers of all its radical Principles; the attracted, and Elastiſtick Niter being on their Conjunction ſo expanded, that from thence the Circulating Blood acquires that activity, that facilitates its paſſage through the remotest rivulets of the veines and arteries; and the free motion of the inſpired Air communicating it ſelf to its moſt ſecret receptacles, keeps the lamp of life from being ſuffocated by its own fuliginous vapours.

§. 9. This being the true proceſs of that violent motion, proceeding from the admission of ſuch parts as having not the leaſt proportion to the Body entered, can have no admission

mission but what is forc'd by violence, which its acute particles prosecuting through the texture of such Bodies as they enter, they force also with them, whatever extraneous Bodies are unproportion'd to the pores of the Blood it at any time finds in its passage, it being by this sort of motion that the Blood is disturb'd on the reception of whatever Particles have a total dissimilitude to its pores; hence the venomous effluvioms in all Pestilential and malignant Feavers: Although their intromitted particles are not absolutely igneous, yet the sudden mutation nature finds on their reception, makes her so swiftly summon in, both her own inbred spirits, and their Nitrous Pabulum floating in the Air, that without the ill proportion'd venome stop up the dilating pores of the heart on a few Circulations ( as it often doth ) being not duly expell'd by the Systole, but mixing with the Tenuous and easily moved parts of the Serum, they are either suddenly excluded in sweats, or else the Malignant matter being so dilated, as to be made more spreading, they do with a greater violence assault the forts, both of the animal and vital spirits : Which being prepossess'd by such unwelcome Guests, afford not roome for those supplies, on whose reception the Principal Functions of life depend.

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§. 10. An example of both these motions, as well that of Fermentation, as this of Ebullition, we find in our ordinary way of depurating such juices or tinctures of vegetables as we preserve, by purifying them from any extraneous body, whose association might cause them to corrupt, the process being, that since the express liquor, whilst contained in the Fibers and cavernes of the Plant, served as a vehicle for the Vivifying Spirits that caused its production, being now deprived of its Habitation, like an Embrio untimely thrust out of its proper matrix, it could not long continue without dropping into shades of corruption, unless the laxity of its texture instead of its former support be preserved by something of parts Analogical to it self. To which end Sugar and Hony, as products of the same Balsamick Effluviiums of Air, whence they drew their nutriment, are ( as the most proper supply ) added to it ; which since it cannot be exactly done without the pores of the liquor are first open'd by a gentle heat, that nimble Agent discovers both in Sugar and Hony some impurities contracted both in the composing the one, and Collecting of the other, and those such, as by that easie association, by mixing its disproportion'd parts with the juice to be preserved, might have rather given it a tendency to corruption. To prevent which, experience

ence hath taught us to seperate all such impurities by Ebullition, which forcing them to desert their usurp'd mansions, they may be removed by despumation; which done, the purified particles of the additional matter, having now nothing to impede them, filling up the lax pores of the liquor, preserve it from contracting a saline and acid fixedness from too close a position of parts, or the admission of such unwholsome vapours fluctuating in the Air, as might render it of a rancid and Putrefactive disposition.

§. II. The foresaid juices being in this manner both freed from all extraneous Bodies, and now furnisht with a Succedaneum to what were its proper and natural supports, are notwithstanding, according as they were Principally composed of fixt and saline parts, or such as were more open and Sulphureous, still apt upon being long or ill kept, to grow roapy from the one, or rancid from the other: by which depravation becoming not longer able to detain their preservative parts, they growing disturb'd, endeavour their exclusion by an internal Fermentation, being not as before capable of despumation by any, even the most violent Ebullition; a sufficient proof that the parts to be seperated by either of these motions, as being partially received into pores  
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not altogether Congruous, beginning the motion internally, are expell'd by Fermentation, or such as having not any similitude, forces the way with the violence of Ebullition. Which being a Doctrine on which the Principal distinction of all Feavers depends, hath enforc'd me to be something the more tedious in explaining it.

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### C H A P. III.

*By what accidents Periodical Feavers are Generically distinguisht from Continents, and specifical amongst themselves.*

#### The Contents of the Chapter.

*The Generical and Specifical differences of Feavers. §. 1. Why I dissent, both from Ancient and modern Authors, in the manner of Periodical Feavers offending the Body. §. 2. The differences between continued, and intermitting Feavers. §. 3. Some accidents equally belonging to all Periodical Feavers. §. 4. Why the Paroxisme happens in such Periods of time. §. 5. Why the first fit only shakes. §. 6. What alteration of humours it is, that*  
in



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*in these Feavers we call Putrefaction. §. 7. Intermittings from the defect of some Segregating Vessel. §. 8. Such accidents, as are incident to all sorts of intermitting Feavers. §. 9. Why the paroxisme begins with cold. §. 10. Why the most intense heat follows the greatest shaking. §. 11. Why the fit returns in such a set Period of time. §. 12. Why the fit begins with Spontaneous Lassitudes, and frequent oscitation. §. 13. Whence the matter proceeds, that in the declination of agues degenerates into an Ague cake.*

§. I. **T**Hese Feavers differing from Contingents in the matter offending, as one is internal, and the other external; and in the manner of that offence, as one is perform'd by Fermentation, and the other by Ebullition: I shall now endeavour to make it appear, how every Species contain'd under the Genus of Periodicals, is distinguished one from another. The discovery of some particular humour; to every kind of which will be performed with the more facility, if we first take a brief, but general view, of the nature of them. By the Ancients every Species of these was thought to offend the Body, according to the Predominancy of which they also allowed a peculiar Focus, or place of Putrefaction, where (according to the

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the crassitude or tenuity of the matter ) it was perform'd in such a set Period of time. Which opinion having been by some industrious modernes contradicted, the most rational of them substitute in its place a Contamination of the Blood, which in correspondent Periods of time, imparts to the Chyliferous supplies, either an acrid, acid, or Pontick quality, such as is most agreeable to its own preceding Diathesis.

§. 2. Since in some measure dissenting from either of these opinions; in answer to the first; it is apparent from the experiments of late Anatomists, that no such peccant matter can restagnate in any Fancied Focus, but it must of necessity impede the Circulation of the Blood; and consequently that motion, on which all the Functions of life depend, if they allow the obstructions to be within the Vessels; if other ways, in whatever part of the Body the extravasated matter should lodge, it would there not only impostumate, according to Aph. 20. §. 6. but also for want of agitation degenerate into venomous and Malignant matter: for which reason deserting the former opinion, on my inquiry into the latter, I found it not easie to conceive, how the Blood should have any such preceding taint, by which the supplemental nutritive juice should become perverted, and that not  
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rather so constantly disturb the heart to render the Feaver continued; since if we take the whole Circulating mass to be vitious enough to hinder its due assimilation, we cannot think but that distemper being for the time of the Feaver inherent in the Blood, and not Communicated from its supplies, must also carry through the heart a matter depraved enough to give it a constant disturbance, and such (which is what I maintaine) as only needs those supplies for its exacerbations: The true cause, of which hath a more probable dependance on something brought into the Blood, either for its nutriment, exaltation, or preservation: according to the nature of which matter, when grown Morbifick, the Paroxisme hapning sooner, or later, denominates the Feaver accordingly: as from the frequent supplies of a diseased and Phlegmatick chile every day; from an Excrementitious choler not rightly seperated in the Liver, every other day; from an acid and saline matter not duly elaborated in the Spleen, every third day; which I shall make more apparent, where I handle these Diseases severally.

§. 3. Having said thus much, both of my own and others opinions, of the matter, whence these Feavers take their Denomination, I shall in the next place make it appeare, that  
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the most rational way of distinguishing continued Feavers from intermittings of the same Species, is as the matter causing a continued Periodical, being something sent into the Circulatory mass of Blood for the uses before mention'd, so it ought ( that Office being perform'd ) to discharge such parts, as frequent Circulations had rendred Excrementitious, either by insensible transpiration, or into their proper segregating Vessels; which office by reason of some obstruction, or other defect, not according to the dictates of nature preform'd, there being in every Circulation some of those veterane Particles left behind, they at length so saturate the whole mass, that without any Procatarrick cause, more then what depends on the internal and hardly discoverable obstruction, the Blood becomes so overloaden, that oppress'd nature cannot indeavour the disburthening it self by a less violent Perturbation, then is visible in Feavers of this kind. Whence these Feavers are for the most part preceeded by an indisposition of Body, sutable to what causes it, although the impediment is rarely so visible, as to discover its Procatarrick cause, nor to merit the name of a Disease, till the Feaver shewes it self; and then, although after every fit, the Transpiration of the Sulphureous matter, and Precipitation of part of what is saline,

*Of Periodical Feavers in general.* 49

saline, cause a remission, it hath notwithstanding no perfect cessation, till by the continued indeavours of nature such Obstructions as first hindred the ejection of the Excrementitious matter are removed, and the freely Circulating Blood not only discharges its invading Enemies into their proper Receptacles, but also reduces the morbifick Particles, that formerly disturbed her, to such a temper, as renders them capable of passing those emunctories most fit to expel them. This being that qualification of the Heterogeneous and offending matter which we call coction, as we do the time in which it is perform'd the crisis; in which, if either the whole, or at least the major part of the Febrile matter, be not expel'd, it is either by an unhappy Metastasis translated to some noble part, where it discovers it self in Symptomes speedily mortal, or (which is often seen) those Heterogeneous Particles, whence the disease had its Original, when set at liberty by the Feaverish Fermentation, whilst they endeavour to force a passage toward their proper segregating Vessel, they precipitate themselves with such violence, that thronging out faster then unassisted nature can conduct them, they either in the Parenchyma of those Vessels, or in some adjacent part, lay the Foundation of Chronick Distempers; that being commonly the unhappy exit

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of

50 *Of Periodical Feavers in general.*

of such continued Feavers, as leave behind them stubborn and lasting Agues, or from rendering the vehicle of the Spirits too saline and gross, by having its volatile parts carried off in the former Conflagrations, and only the *caput mortuum* remaining; Which not according to the dictates of nature sent off, as a *Coagulum* for the seperating of some excrement, but in this fix'd and lixivial condition detain'd in the Vessels, they there lay the Foundation of Scorbutick, Hypochondriack, or other Chronick distempers.

§. 4. Having said thus much concerning the material cause of continued Periodicals, by which it will appeare, that both in their antecedent and conjunct causes they differ from intermittings of the same Species, I shall now for the plainer understanding their nature deliver my Opinion of some accidents belonging to them, as such by which they are not only distinguish'd from continents, but also from those of a greater finity to themselves, Intermittings, as

1. Why the Paroxisme happens in such set Periods of time.
2. Why the first fit only shakes.
3. What alteration of matter it is, that in these Feavers we call putrefaction.

§. 5. As

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§. 5. As to the first of these queries, we are to note, that although in continued Periodicals, the matter producing the Feaver is always Circulated with the Blood ( whence its continuation ) it is notwithstanding either intended, or remitted, according as the Febrile matter spends on its own proper stock ( viz. ) what was circulated with the Blood on the first assault of the Disease, or from those small supplies the obstructed Vessels admit it to receive : which being however enough to augment the vigour of the consimilar matter which before offended it, by its oppressing her, incites nature to endeavour its expulsion, by that we call the paroxisme, which alwayes happens sooner or later, according to the motion of the matter causing it, as I shall more largely declare, where I treat of the exacerbations proper to intermittings; the difference between the fits in them, and the Paroxisme in these, being chiefly in that it is more languid in continueds, giving no such concussion to the Body, as intermittings. The reason of which is, that in continueds the constant Circulation of the peccant matter with the Blood, hath not only mixt it with every part of the lymphid vehicle, which renders the Body not so apt to be cold on the first assault, or to sweat in the conclusion, but also so alters the position of the active Febrile

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matter, that all they can attain to, when moved by the disease, is but languid and weak ; a motion rather fit to transfer the peccant matter, from one part of the Body to another, ( which it often doth ) then to eject it wholly ; whereas on the contrary, what causes the fit in intermittings, being sent into the Body before undisturbed, and that by the defect of its segregating Vessel, meeting there with a sufficient quantity of Serum untainted by its former Society, as it begins the Paroxisme with more vigour, so it commonly concludes it with larger sweats.

§. 6. Why the horror and shaking should only be on the first assault of these Feavers, and not ( as intermittings ) begin all the ensuing Paroxisme: which is the second quere. The reason of it seems to be, from the continued residence of the Febrile matter in the Blood, of which by reason of those obstructions in the Vessels, that first gave occasion of the Feaver, there is little, or nothing sent off to the segregating Vessels proper for its reception ; so that the grosser Sulphur of the Blood being by the constant association of the febrile particles kept always in motion, as they suffer it to have no perfect *Apenrexia*, so they likewise keeping the serum always hot, suffer it not to let its pungent and nitrous parts, be at any time so contra-  
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cted to vellicate the Nerves on their irregular motion; as in the first assault of the disease, when the Fermentation beginning in the more consistent parts of the Blood, puts its serous vehicle into action, ere any of the rarified Sulphurs were mixt with its Elastick Niter; an accident, which from the continuing agitation of the Blood can never happen in any succeeding Paroxisme, except in such Feavers which from a secret Venome introduced *ab extra*, produces the like effects from more latent causes; these shaking fits which we see towards the latter end of other Feavers, and sometimes preceding a crisis, being in the one from a total depravation of the *Succus Nervosus*, and ushers in Death; in the other from the strength of nature forcing that sharp matter through those exile Channels, either to the extremity of the Body in sweats, or to the Urinary passages; it being observable that when any horror precedes it, the future crisis is to be expected by one of these ways; a sufficient demonstration that it was caused by the motion of the Serum which nature so expels.

§. 7. For the third, why the humours in Periodical Feavers are said to Putresce, there being in them no such alteration of the former position of the parts, as corresponds with what

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we have defin'd Putrefaction visible in continent Feavers to be. My Opinion therefore of that mutation, which we here understand by Putrefaction, is that as it proceeds from a matter always Concomitant with the Blood, not from any external error, as in a Synochus, or impeded evacuation by any excretory Vessel, as an intermitting, but altogether from a burthenfome Accumulation of the Morbifick matter in the Blood; by which means (as mineral exhalations out of their proper sphere, for want of a convenient matrix degenerate into the turbulent matter of tempests, so) this matter being Heterogeneous, as to the present temper of the Blood, although of use in other Offices, beginning there that intestine and Fermentative motion, which it ought to have performed in another place, produces that alteration of Particles in the circulating Mass, that we call Putrefaction; but not as in a Synochus, by setting at liberty the fetid Sulphurs by its overmuch relaxing the Fibers of the Blood, but by the predominancy of this foremention'd Fermentative matter; the constancy of whose motion produces (although in a different manner) an alteration, no less Morbifick in the position of the Sanguinary Particles, then the others violence; the terme of Putrefaction being justly due, as it hath an equal tendency to such an alteration

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*Of Periodical Feavers in general.* 55

on as separates the corrupted parts from the sound, with what we find in continent Feavers; the coldness felt in the Body, and especially the Back, the seat of the larger Vessels, tending as well to a mutation of parts, as the Heat and extention we find on the first assault of a Synochus, the difference being only, that in one that Heat which produces it begins in the more, in the other in the less fluid parts of the Blood; by which means the igneous Particles being first imparted to the Serum, in a Synochus suffers it not at all to be so sensible of that cold, (which is the Infallible forerunner of Periodicals) as the crude Serum doth that spreads over the Body in the first onset of these; and so continuing, untill the begun Fermentation setting also at liberty all the fetid Sulphurs of the Blood, not only gives it that Contamination we call Putrefaction, but by the succeeding Heat (which its constant, though not violent motion, produces) in some measure shews the nature of the Feaver; that which is discoverable in a continued Tertian being from a Sulphureous and volatile matter, giving the most sharp and violent onset, but that by reason of the activity of its parts is most speedily dissipated; whereas when the igneous attomes are included in a more saline and dense Body, the Febrile particles (although a more diffi-

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cult admission ) find a more easie retention, as is visible in quartanes. Or lastly, the Heat is gentle, but durable, as happens when the activity of these minute Bodies is near suffocated with a burthen of mucous and tenacious matter, as in quotidians, where the Heat, although hardly discernable, is always of a longer duration then in more active Feavers.

§. 8. Having hitherto proved the matter offending in a continued Feaver, to be an excrement, which was not according to the intention of nature duly separated from the Blood, but after some vaine indeavours that way, being hindred by Obstructions, circulates so long with it, till it puts the whole mass into Preternatural motion, whence the continuance of the Feaver. It is now time that we do discover ( according to our elected Hypothesis ) the nature of Intermittings, and how either in the matter or manner of their offending, they are distinguished from continueds. In doing of which, although I shall in some things differ, both from such Ancient and moderne Writers as have preceded me, it is not however with such a disparity, but that I shall willingly adhere to what ever reason and experience make authentick in either. With the Ancients I shall acknowledge the matter offending to be analogous to what they

## *Of Periodical Feavers in general.* 57

they call either Cholerick, Phlegmatick, or Melancholly; in all which, as to the manner of Offence, I shall with later Writers rather impute it to Fermentation, then Heat; but as I shall not with the first acknowledge, that these offending particles had their peculiar Focus in which they according to such a time were brought to Putrefaction; so shall I not with the latter take what puts the Blood into a Fermentation, to be from any preceding Diathesis of its own, perverting its Chyliferous supplies; but so far indeavour the Reconciliation of both, as in some measure agree with the former, as to the matter offending; but concluding the manner of that offence to be better described by the latter, some segregating Vessels being the *pars mittens*, and a Saturation of the Blood with a Fermentative matter sent from thence, the immediate cause of the Paroxisme.

§.9. The conjunct cause of continued Periodicals having been made appeare to be from a Heterogeneous matter not duly ejected, a defect depending wholly on the disproportion of the minute Effluvioms of the Blood, or pores by which it ought to pass, we cannot expect they should be so frequently apt to assaile us, as intermittings, which besides the same with continueds, may also be produced by

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by a defect of their segregating Vessels ; their want of separation ( which perhaps ought to be took more notice of in the cure of Agues ) being as frequently from a defect of its Parenchyma, as the ineptitude of its own parts ; a difference, which it will not be besides our purpose to endeavour a farther discovery of ; which as to each species, I shall attempt in their several Chapters, there being no rule generally serving for all more then that : where the Parenchyma is deficient, there are commonly some preceding signes of it, as where the fault lies in the forme of the particles, it hath commonly something foregoing, that we may take for a Procatarrick cause ; many of which, though on the first view they seem more likely to be forerunners of continet feavers, yet on a more serious consideration, may be rationally attributed to the disorder of these Excrementitious Sulphurs ; thence lying on the ground, sudden Colds, or whatever else checks their Transpiration, as also sitting long in the Sun, or a constant residence in some maritime and unwholesome Airs, by rendering them either too numerous to be carried off, or too much rarified for separation, an intermitting Feaver may be as well caused as a Synochus, especially if the matter repercuss, or otherwise disorder'd, be an Excrementitious Sulphur, which it more frequently is, especially in the Spring

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Spring time, then any other Effluviūms of the Blood; whence it happens that rarely from any of the foremention'd causes, any other sort of Ague is produced then a tertian, till such time as a Complication of the like errors hath so exhausted the Sulphurous parts of the Blood, that the saline predominating after a long Torrefaction of the humors in the preceding *Summer*, the succeeding *Autumn* converts it into a quartane; it being also from the sudden obstruction of some such over much elaborated and minute effluviūms of the Supplemental Sulphurs belonging to the Circulating mass, that we so often see Pleurisies, Quinsies, and other sharp Diseases, which we should rather account (since Sanguinary tumors) the products of a Synochus, notwithstanding immediately to succeed the first assault of such Feavers, as from their beginning the conflict with cold, we are assured ought to be numbred amongst the species of continued Periodicals.

§. 10. The general causes both of continued and intermitting Feavers thus briefly stated, with the reasons given why I dissent from the formerly cited opinions, I shall, for the further Confirmation of their proceeding from the error of such segregating Vessels, as the matter causing them was to be carried off  
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by, take a view of such Symptoms, as ( though they are equally incident to all intermittings ) have their production from some unseperated matter, and not ( as some very late Authors indeavour to maintaine ) from the Pancreas only; no obstruction nor other defect of the juice, those Authors conceive to be carried off by that Glandule, being capable of producing so many varieties of Agues, nor in each of them such different Symptoms, as we frequently see they are attended withal, which ( as to its proper place ) leaving to be proved more at large, where I treat of Quotidians in Specie, I shall now proceed to take a view of those ordinary accidents which wait on intermittings in general,

Which are,

1. Why the Paroxisme begins with cold and shaking.
2. Why the most intense heat follows the greatest shaking.
3. Whence the orderly returnes of the fit.
4. Why it begins with Spontaneous Lassitude and frequent Oscitation.
5. Whence an Ague cake is produced in the declination.



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In answer to the first of these, it seems to depend on the different reception of the Febrile matter ; that which hath its Original *ab extra*, by making its first entrance into the Limpid parts of the Blood, beginning the Feaver with Heat ; as on the contrary inter-mittings being from an internal matter, and such as, ere some error made it Heterogeneous, was a compleating part of the Circulating mass, by whatever cause after it hath indeavour'd an ejection, it is again return'd, transiting the Serum to whose pores it hath no proportion, and indeavouring a re-entry into its former Habitations, it there, like a Fire beginning within the House, seizes first on the more solid parts ; where the intestine motion begun, and the Morbifick matter with an impetuosity correspondent to its nature, indeavoring to extricate it self, the tenuous part of the sanguinary Mass, (not yet more concern'd in the conflict, then what depends on the impulse of the other ) is in its own crude condition forc'd with such violence to the heart, that (like dense Bodies carried down a streame) the more crass parts of the Blood are left behind, the crude Serum so often circulating alone, that the Heart supplied with nothing more capable of being Spiritualized, sends to the Brain, and that to its rivolets, the Nerves, only the raw exhalations of this  
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limpid matter. Hence proceeding that Spontaneous Lassitude, Cold, lowness of the Pulse, and whatever other languid Symptomes attend the shaking fit, all proceeding from the inability of the heart to prepare sufficient supplies for the animal Spirits. From whose defect, the nerves becoming lax, and having no other supplie but the Nitrous and Crude vapors of the limpid Serum, the shaking begins, with which the Body is notwithstanding less troubled in some Agues, then in others, by reason that the particles of the Febrile matter included in the Blood, being of less agillity, do not with that eagerness endeavour to extricate themselves, and consequently gives not so violent an impulse to its vehicle. An example of which we have in Quotidians and other bastard Feavers proceeding from a mucous and Phlegmatick matter. As for the continuance of these shaking fits, the time is very uncertain, it wholly depending on the perfect mixtion of the Sulphurous with the aqueous parts of the Blood; Which happens sooner, or later, according to the quantity or quality of the matter offending. Whence it follows that the more Igneous and Sulphureous it is, by so much the more nimble is the motion from Cold to Heat, and all other mutations visible in the Paroxisme; which although for the time it last more vehemently  
afflicting,

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afflicting, is quicker in its operation and termination of the fit.

§. 11. The preternatural Heat, which always succeeds the Cold and shaking fit, depends on the volatilizing of those Heterogeneous Particles, that began the Fermentation: Which never happens, till by their frequent transiting the Heart, the concussion which it suffers in the Systole, hath set them at liberty, and made them capable of mixing with the Serum. Which work is more speedily or slowly perform'd, as the Elastick matter is imprison'd in a more or less tenacious Body: on whose consistence depends the continuance and alteration of the fits, as the succeeding Heats do on the nature of the matter contained: All sorts of which, according to their aptitude to be made volatile, being thoroughly mixt with its ferous vehicle, do with a Proportionable speed by the Capillary Vessel, communicate themselves to the external parts of the Body; there exercising their Tyranny in troublesome heats, till the over-agitated latex becomes tenuous enough to be carried off in a plentiful sweat; on whose wings (if large enough) the primary incendiaries likewise expell'd, the Paroxisme ceases, but if not, although it lie dormant a while, it threatens either a more quick and eager returne,

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turne, or else to change the intermitting into a continued Feaver of the same Type.

§. 12. Why the fit returnes in such a set Period of time; a question by all Authors so doubtfully handled, that though I shall (acknowledge all that can be said in it rather conjectural, then Demonstrative) I shall not withstanding venture to give my opinion amongst the rest. To omit the ordinary assilum of our Ignorance, occult qualities, to which some retreat, and also the Periodical putrefaction in a peculiar Focus from a predisposition of the matter, as either the birth of an easily deluded fancy, or an ill inform'd judgment. The latter of which opinions, although it hath had the most supports of any yet extant, hath been justly exploded by many late Writers, on good grounds; first as they acknowledge, no such humors to be sincere and really existent in the Body, the nutritive juice from which the Blood hath its perennal supplies, although extracted from various Bodies, being fitted for nourishment, is then Homogeneous, having no parts naturally separable, but such, as were sent in for other offices, and these such, although they have some analogy to what past formerly under the name of humors, are (as I have elsewhere made appeare) ordained for other uses, then such as have been formerly assigned  
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to them. For which cause ( together with some reasons formerly alleaged ) rejecting both this and such other opinions as I have met with, I shall briefly deliver my own, which is, that it depends wholly on a Preternatural reception of what ought by some segregating Vessel to be cast out of the mass of Blood. For it being by all acknowledg'd, that there are such parts continually, either for the exaltation or preservation of the nutritimental and Spirituous juice sent into the circulating mass; and that withal, when they have perform'd that office so long till by reason of their continual supplies they become burthensome, what is superfluous ought to be ejected, and by some segregating Vessels carried off, as an excrement; it cannot but be likewise conceived, that if these separations be not rightly perform'd, but that this matter ( being now grown excrementitious ) shall be again transfer'd into the mass of Blood; instead of those usefull offices, which it was naturally ordained to, it cannot but now give it some disturbance, but that so Proportionable to the quantity of the matter so Preternaturally return'd, that it becomes not visible, till such a proportion of it is received, which in a healthy state of Body would have proved sufficient to performe the Office by nature designed, which, since what serves for the ex-

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altation of the Blood, and advancing it into a spirituous substance, seems to require more speedy supplies, then what only serves either to keep it from too speedy a Fermentation, as its Phlegmatick supplies doth, or from becoming rancid as the acid, and saline juice, we may with reason attribute the greatest agility to the Cholerick and Sulphureous part, although the most frequent assaults to the Phlegmatick, as it is a concomitant to its grand supplement the Chile; But the slowest of all, to the Splenetick juice, as a matter not so absolutely requisite to the necessities of Life, as either of the other. All of which cause such distances between the Paroxisme, as each of them hath naturally an appointed time to circulate with the Blood, e're grown Excrementitious, and fit for Ejection, which so easily an obstructing matter, as Phlegm, must have once in 24 hours, or else the body becomes dull by too great a burthen of it; the billious matter once in 48 hours, or the Blood becomes too hot and fierie to assimilate with the Chile; the acide juice once in 72, which if not performed, instead of regulating the violent motion of the Blood, its natural office, it by over saturating it with saline and fix'd parts renders it apt to restagnate.

§. 13. Further to confirm what I have delivered

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livered in the former Section, and withal, to answer to my Fourth Query ; it is necessary to consider such Signs, as we ordinarily see precede the Paroxisme. First, we may observe the night after the fit to be past with a great alacritie, and easiness, which the night before it seldom is ; the cause of which must of necessity be, that the Blood begins then to be burthened with that Heterogeneous matter to be discharged in the next Fit, which now growing so turgent, that it can no longer continue a peaceable Circulation, nature struggling to free her self, produces the first visible disturbance in the part subservient to respiration, an oppression of those parts ordinarily forerunning the cold fit, which is caused by the Blood not regularly transiting the Parenchyma of the Lungs in its then crude condition, without being apt to restagnate in so lax a Body, either by reason of its own ineptitude to be rarified by the inspired Air, or from the disproportion of those Morbifick Particles to the pores it is to pass. From either of which causes proceeds that difficulty of respiration, and heaviness of the Breast preceding the Fit : which troublesome Symptome Nature endeavouring to redress by more frequent attempts, makes the Body subject to those retchings and gapings seen at that time. Both which happen when the peccant matter

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(now grown strong enough to begin the Conflict) is on its first transite to the Heart, whose vigorous struglings to discharge it self of so unwelcome a guest, suddenly after begins the combate ; The First assault by reason of the oppression of that Noble part, by such a crude matter, being with trembling, faintness, and a low but frequent Pulse, which gradually rises (the other faint Symptomes likewise abating) as the extricated Sulphurs gain power to expand themselves.

§. 14. For the fifth of these queries, namely whence the matter proceeds, that Precipitating into the Epigastrium, there discovers it self in a tumor, commonly called an Ague cake, the cause of which is ordinary from a slimy and viscous Phlegm, which, by reason of the exhausting of the more active and thin parts both of the Blood and bilious matter, that promote its motion in the preceding fits of the Ague, that growing unapt for a free and natural Circulation, by the help of which it ought after every fit to deposit the offending matter by the Mesenterick Arteries into the Bowells, it so long restagnates in the Vessels, till they not only become varacous, but the Grandules also slowly fill'd with a tough and viscous matter, becoming tumified, they streightning the passages, augment the Malady;



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dy, both in themselves, and the Vessels that transmit them, forcing those few tenuous parts sent that way so perfectly to exsude, that at length the tumor grows to an absolute Schirrus, which if not timely dissipated by emollient and aperitive Remedies, renders the ordinary passages of the Serum to the Reins, so streightned, that forc'd to extravasate, it frequently proves the parent of Mortal Drop-sies.

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C H A P. IV.

*Of those accidents by which continent Fevers are distinguisht as well amongst themselves, as from Periodicals.*

The Contents of the Chapter.

§. 1. Their Generical differences rather to be discovered from the attending Symptoms, and the ordinary ways of Expulsion, then from the manner of Invasion, Pulse, Urine, or other Signes formerly observed. §. 2. The most florid Complexions aptest to Fevers of this sort. §. 3. The difference between an Ephe-

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*mera and an imputrid Synochus, according to the Serum in which they are Lodged.*

§. 4. *What manner of change it is we call Putrefaction, in a putrid Synochus.* §. 5.

*Whence Epidemick and Sporadick Feavers have their Original.* §. 6. *The difference between Continent and Malignant Feavers.*

§. 7. *How Diseases are caused by the mutations of the Air.* §. 8. *Why a Synochus hath*

*always a Procatartick Cause.* §. 9. *Why Continent Feavers frequently terminate in*

*Heſtick.*

§. 1. **H**AVING handled the material and formal distinctions of both sorts of Feavers, as also how Periodicals do differ amongst themselves; I shall in the next place take the like brief view of such Accidents, by which Continent Feavers are likewise distinguished one from another, which by the Ancients was no otherwise then by their Exacerbations and Remissions; the same preternatural heat, inequality of Pulses, and intense Colour of the Urine promiscuously allowed to all, or most of them: they holding that as well Continents, as Periodicalls, had the same horror and cold on the first assault of the Feaver. To which Doctrine not assenting, I shall in the succeeding Section endeavour to make

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make it appear; that the Generical differences of Feavers, is rather to be sought for in the various and irregular Motions of the Blood and humours, Continents being always more prone to endeavour the exclusion of the offending matter, by large Hemorrhagiae, or sanguineous Tumours precipitated with violence to some External or Internal part, and there discovering it self in a Phlegmon Quinsy, Pluresie, or any other distemper, incident to the over-agitated Blood, then are the more gross and humoral parts of the Circulating Mass, whence Periodicals proceed. The reason of which is, that the Blood having no Vessels ordained for its discharge, when in a degenerate state, but such in which it was prepared, or those it ought to nourish; when made turgent by a mixture of febrile Particles, if it extricate not it self by sweat, whilst lodg'd in the more Lymphid parts of the Serum, it cannot (like the other be rejected by way of Excrement) but with an impetuous violence, rushing from the larger Channels to the lesser Rivolets, if the passages it there attempts are not obstructed, it vents it self in great and sometimes dangerous Hemorrhagiae, but if opposed, either appears in some tumour correspondent to the present Diathesis of the Blood, or else (without any Critical evacuation) continues its regency till the vital Fire

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is either wholly extinguisht, or gradually recovers its stifled flame, after a tedious Scene of faintness and imbeciliy.

§. 2. It being from this florid Constitution of the Blood, that as its easily volatilized and impregnated with Spirits: So is it likewise more apt to be contaminated, either with Particles only of a Nitro-Sulphurous and Elastic Nature, as those are that cause ordinary Feavers, or such as emaning from some Aerial or Subterranean Venome become the seminal Principles of Plagues, and other Contagious Diseases; then such Persons as from a closer contexture of parts are not so apt to its reception, but rather to such distempers of the Blood as have their Original from some indisposition of the humours, acquired either by the preternatural Retention, or defective Expulsion of any of them, when grown Excrementitious. In which Morbifick state of Body, as we see a Synochus apt to discharge itself either by a Flux of Blood, or some Internal or External tumour, so the matter causing Periodical Feavers when grown fit to be expell'd by a Critical Evacuation, rather elects some such passage by which the Blood ordinarily discharges its veterane parts, then any more such violent Exclusion, as we formerly mentioned; From the Consideration  
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of which we may easily collect, that as in continent Feavers the Principal indications are by ejecting what causes it, and to allay the Feaver, and restrain the Elastick quality of the Blood, by which its Motion is rendred over violent; so in Periodicalls, the great Design of the Physitian ought to be the Expulsion of those noxious humours which promote its fermentation.

§. 3. The general differences of all Feavers being thus discovered, both in the matter offending, the manner of offence, and the accidents thence resulting; we are now to take a view of their specifical varieties. In doing of which, since that of Pestilential Feavers is too great to be included under any General method, referring it to a peculiar Chapter, I shall here only handle what belongs to Continents, the ordinary division of which is into an Ephemera, a Synochus, either Putrid or Imputrid, and a Causus: All which were by the Ancients held to proceed, either from the Spirits, as in Ephemeræ; from the most tenuous part of the Blood, as in an imputrid Synochus; or from the whole Mass of Blood putrifying in the *Vena Cava*, as in a Causus, or putrid Synochus; with which opinion notwithstanding the Universal assent of all, or most of the Ancient Authors, I must acknowledge

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knowledge my self as much unsatisfied as I find many other Moderns are, I seeing no cause to acknowledg a greater difference between an Ephemera, and an imputrid Synochus, then there is between the tenuous and Lymphid part of the Serum, that passes by insensible Transpiration, and that which is carried off by the grosser Matter of visible sweats. For which Opinion, although a Novelty (besides some not easily convinced Arguments of my own) I am not wholly destitute of some Authors of good reputation to defend me.

§. 4. If Putrefaction is what *Aristotle* defines it to be, a corruption of the Natural heat in moist bodies, caused by an External heat; the definition rightly accords with what we find in a putrid Synochus, where the mutation of the parts being made by an External agent, 'tis not intelligible how they penetrate the grosser and more Internal without, as transiting the more Lymphid they leave there the first impressions of their violence; whence it follows, that a Putrid Synochus rarely happens, but as a dependent on a preceding Ephemera: that mutation of parts which we call Putrefaction in them, being but the product of that irregular motion which was begun in the other, the quantity of Matter to supply the flame, being too great to be extinguished

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tinguished whilst only floating in the Volatile Serum, suffering not the Conflagration to cease till it hath discomposed the more solid parts of the nutrimental Mass, and raised its Internal and Natural (not supplemental and adventitious Sulphurs, such as are the more active humours) into such a fluor, that the fœtid vapours thence emaning contaminate the whole Mass with that depraved mutation which (from the manner of its introduction) we term putrefaction: but of a nature so Different from what hath the same denomination in Periodical Feavers, that it justly gave occasion to *Galen* to say, that Blood only by heat, other humours not without Putrefaction cause Feavers; in which place by the term of Putrefaction, he seems to mean, that Agitation of the Blood caused by an undue retention of its Excrementitious and seperable parts, which (as I have farther explained where I treat of Periodical Feavers in general) will as justly merit the Title, as that which according to *Aristotles* Definition is *Corruptio caloris Naturalis ab ambiente calore*. To confirm which Opinion, it is worthy our noting, that even the Ancients which knew not the Circulation of the Blood, and consequently not the true cause of the production of the humors, did notwithstanding make the Principal distinction between Continēt and Periodical Feavers to be, as  
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the first was, to the other violent motion, the latter from the vitious mixon of the Blood.

§. 5. To make it yet more fully appear, that there is no greater difference between an Ephemera of either Species, and a Putrid Synochus, then what we have here mentioned; uamely, that in Ephemeræ, that part of the serous Vehicle, which gives the first Entertainment to those Exotick intruders, was so easily penetrable, and the Febrile Particles so few (that without giving the Body any greater disturbance) Nature was able to expel them by insensible Transpiration, or at least, by plentiful, but not troublesome Sweats; whereas, when the Circulatory Mass hath by any preceding disorder rendred it self more capable of receiving them, if it happen in a time when the ambient Air is much impregnated with such matter, which it more or less is according to the variation of its temper, their number being then too great for so easie an expulsion, although they carry in them no other malignity, then their ordinary explosive quality; they by that above cause so violent and long continued a Motion, as rendring the dissociate Particles of the Blood unfit for assimilation, reduce it to the state; we commonly term Putrefaction; amutation as easily



fily wrought in our Blood, as insalubrious heats, or intense cold, are by unequal meeting of the same bodies in their general rendezvous, the Air. Their aptitude of assailing human Bodies more at one time than at another, perhaps proceeding from no other cause, then as these explosive parts, being more dilated by the Aerial Sulphurs (as in great heats they always are) being then more easily drawn in by the Pores, then when being more contracted (whence extream colds) their minute Bodies become of such Figures, as render them not only less capable of Motion, but also of a much more uneasy entrance; it being either from this indisposition of the Air, then from any Subterranean and Malignant Effluvioms, that Epidemick and ordinary Sporadick Feavers have their Original, which if carefully observed, would much assist our Prognosticks in judging the healthiness or insalubrity of the seasons.

§. 6. The nature of this Extraneous matter disturbing the Blood more seriously considered; the difference between Continents and Malignants, seems to be no other, but only as in Pestilential Feavers there are some venomous Attomes interspersed amongst the Aereal Effluvioms which offend by their disproportion to the Pores in the Blood; whereas,  
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those from whence ordinary Continent Feavers proceed, although from the temper of the Air they may become Epidemical; yet as they disturb the Blood no other ways then by a Conjunction with the innate Sulphurs alway resident in the *Calidum innatum*, they become expanded by that means, putting the circulating Mass into an inordinate Motion; which proves the cause both of the Feaver, and such various Symptoms as depend upon it; which although of so near a similitude, that they ordinarily give the Disease its denomination, do notwithstanding, as they find the several Bodies they assault furnish'd with streiners and other preparatory Vessels of different proportions, so do they accordingly either find a quick and safe desihary from the openest falliports, or are with more danger and trouble retained in such as are not so well adapted for their passage.

§. 7. That if in these necessary operations of Nature, there chance to be any error either in the matter attracted, or the parts it is attracted to, it is not difficult to conceive that the Body must from thence find a disturbance commensurate with so powerful a cause: as if some Venemous Effluvioms being blended together with the Nitrous, shall help to fill up those intersperst Vacuities disseminated through

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through the Air, the admission of them into the Body together with the other, they do not only by the Superabundance of the one disturb the Body with a Feaver, but from the disproportion of the other, it also becomes Pestilential; they imparting to it a Malignity, whose effects are more or less visible, according as those venomous Particles were in quantity and quality, both the Precess of the disease, and the Prophylacticks tending to its Cure admitting of a Correspondent variety; besides which admission of a venomous Matter, as the temper of the Air is altered by an over great Dilatation or contraction of its Nitrous parts, to the Extremity either of Heat, or Cold; such Mutations cannot but work on the Body so as to make it obnoxious to Diseases, suitable to the nature of what causes it, and that much more in Bodies rendred apt to entertain them, which all such are as by any preceding disorder have so advanced the natural Sulphurs in the Blood, that like the Sun between the Tropicks it overmuch dilates its Elastick supplies suckt in from the ambient Air, from thence causing the frequent assaults of short lived Ephemeraes, in whose gentle dewes, if the matter be not over large in quantity, nor depraved by some thing more heterogeneous in its Aereal Vehicle, it easily Transpires; otherwise by its confused mixture  
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of all its Particles, it converts that to a putrid Feaver, which without any such accident would have had a more gentle Termination. By all which its apparent, that according as the Febrile Matter hath its residence, either in the Lymphid, or more crass parts of the Circulating Mass, so it becomes the Parent either of an imputrid, or putrid Feaver, it being very probable that the Type is varied according to the quality of the Vehicle that receives the Heterogeneous Bodies that cause it; and that also these Vehicles are framed of a peculiar Serum adapted to the Pores of such parts as it is either to conveigh nourishment to, or carry Excrements from.

§. 8. It being so ordinary a thing for this sort of Feaver to succeed inordinate Passions, excessive Drinking, immoderate Venery, or whatsoever else so overmuch Agitates the Blood to volatilize its natural Sulphurs; it is no wonder that Antiquity hath always assign'd them a Procatareëtick Cause, as if without some disorder of the Internal Sulphurs of the Blood, contaminating the Fæminine Principle of Life, the Aereal Niter, there could not be that Morbifick Dilatation; the effects of their meeting with benigne and suitable degrees of heat being such a natural and gentle Expansion, as only serves to promote the acti-

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ons of Vitality; it being an ordinary question with Physicians, when visiting a Feavorish Patient, if they find it a Synochus, to examine what Errour hath preceded it; a question seldom ask'd in Periodical Feavers, which are conceived most commonly to assail without any Procatactick Cause worthy the noting: an Opinion not so rationaly grounded, but that if rightly considered, it will appear, that they also are not without their preceding causes, although less observable, as being more remote: the one proceeding from an undue reception of the Aerial Effluvia, an incapacity always bred by an Errour in some of the Six non-natural things; which as the ordinary Utensils of Life, cannot be much abused without our becoming sensible of it; whereas the other being from Internal alterations, either by Obstructions, Solutions of Continuity, or the like, although perhaps they much oftner, and alwaies longer precede this sort, then the ordinary forerunners do continent Feavers, yet (as not so immediatly preceding from external agents) they are less observable.

§. 9. Amongst the signes that discover continent Feavers to proceed from the vitious conjunction of such a matter, as we have mentioned, its frequent terminating in a Hectick Atrophia is not the least, the most likely

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disease to succeed such an expence of the vital flame, as the preceding conflagration must of necessity cause ; by which meanes the Balsamick parts of the nutrimental blood, do not only loose their tone, and cease to rarifie the inspired niters, but the over violent agitation doth withal so relax the Fibers of the heart, that the blood, both wanting the Conquassation which it ought to have in its Ventricles, and the Vibration which ought to give it a convenient distribution through the Body, for want of Sulphureous parts, to give Expansion to the Nitrous, not being able so to conveigh the Spirits through the Pores of the Body, as to give the nourishment a convenient assimilation, each part, after such faint indeavours as in Consumptive people are felt some short time after meals, must at the length sink into a deplorable Atrophia. All which Symptoms are as incident to Continent Feavers from the impoverishing of the Balsamick heat, as Hypocondriack, Scorbutick, and whatsoever have their Origin from fixed Salts, are apt to succede such Feavers whose seat is not in the Balsamick, but assisting and humoral parts of the Blood, which in most ordinary Feavers is the part first disturbed ; whence they commonly begin with coldness and shaking, although many of them for  
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the future, have no such Exacerbations as may conclude it Periodical, but rather proceed in such a constant intemperance, as is observed in a Putrid Synochus; which mixt Feavers are those with which we are most commonly troubled, proceeding from the promiscuous of the Volatile and Balsamick Sulphurs of our Blood, to be put into action by the commotion which was first begun in the fix'd and humoral parts of it.

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## C H A P. V.

### The Contents of the Chapter.

*Hence the cause of wandring and uncertain Paroxismes proceed. §. 1. The common term of a new Disease, rather taken from the Symptoms, then the Feaver it self. §. 2. The Opinion of Plater concerning Symptomatical Feavers examin'd. §. 3. The cause of Symptomatical Feavers according to this Hypothesis. §. 4. What we call a Febris Latica for the most part Symptomatical. §. 5. Why Florid Complexion'd people are most subject to Feavers of either species. §. 6. The Analogy between Feavers and Tumours. §. 7. How the Curative Indications in Feavers are assisted by this Comparison. §. 8. The Prepara-*

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*ration of the humours in Feavers Analogical to the suppuration in Tumors. §. 9.*

§. 1. **H**AVING delivered my opinion concerning the several sorts of Feavers, together with such accidents as indifferently belong to each Species; e're I shall say any thing of what generally concerns their Cure, it will not be amiss to cast an eye on some collateral Tracts, where we find this common enemy as it were marching out of his Road, and become anomalous to that more regular way of proceeding we have hitherto described. Sometimes (especially in inveterate Agues) we see the Paroxisme, as to the time of the Invasion, absolutely uncertain. An observation, which on a superficial view; seems to contradict the opinion of its depending on the reception of a Heterogeneous Matter into the Mass of Blood, from the defect of any segregating Vessel. To clear which doubt, we are to note, that these irregular Paroxismes never happen in ordinary Feavers, before, by all vain indeavours towards a critical Expulsion of the Matter offending, Nature becomes so weakned, that, what from her imbecility in moving it, and the ineptitude of the matter it self to Motion, it is suffered to return into those Vessels from whence not long before



fore it was as an Excrement expell'd ; which becoming by that means so oppress'd, that they cannot discharge them in the Paroxisme, by the ordinary Channels, Nature is forc'd to endeavour it by such vents, as are design'd for other uses : So that from hence all the coadjutant parts of the Circulating Mass becoming Contaminated, each of them seeks to putrifie it self, according to the Periods of time, in which the Blood becomes saturated with that particular Species of Matter ; at which time (although weakly) she indeavours its Expulsion in some thing resembling a Fit, whose Type following the Motion either of the Phlegmatick, Bilious, or Saline Particles of the Blood, not only varies the Fits accordingly, but also leaves the time and manner of their Invasion so uncertain, that sometimes they all meeting, cause many Fits in a day, whilst at other times the Quotidian only appears : which, by reason of the weakness of the Body, and paucity of the Matter, is so inconsiderable, that the common expression of it is, to say, they had only a remembrance of the Fit : from which cause also it sometimes happens, that neither of the other species keep their ordinary returns, but sometimes require several days before the Feaverish Particles can so extricate themselves from the tenacious

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Matter they are involved in, to cause a Fit. An accident we see often happen to such, as have the Mesentery and parts adjacent much obstructed, as often it is after sharp Feavers, where the tone of the Blood hath been so much relaxed by the former Ebullition, that the humours being blended together confusedly, Nature surrenders her command to which of them soever with the greatest impetuosity attempts it.

§. 2. Besides the various sorts of Feavers, which we have already mentioned, together with such Epidemick Distempers, as from their aptitude to infect others, are usually rang'd amongst Malignants. Which as a Subject too copious to be handled here, I shall refer to their peculiar Chapter. There is yet another sort of such ordinary Feavers, as are not suspected for Contagion, which Authors commonly term Symptomatical, as attending on Pluresies, Quinsies, and other sharp Diseases. From which vulgarly received opinion, *Felix Plater*, with several other Physitians (eminent in their times) seem to dissent, holding those Diseases to be rather a Product of the Feaver, then the Feaver a Symptome of any of them. Both which Opinions, according to their Hypothesis, which deduced all Feavers (except Ephe-

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Ephemeræ) from Putrefaction, seem equally improbable. Those they call Symptomaticks, even in the beginning, e're the tumor they depend on hath any signs of Suppuration, discover themselves with greater Vigour then when the tumor is suppurated; which if they absolutely depended on, that being yet no more then extravasated Blood, or some other humor, having only then a remote tendency to Putrefaction; if it be true, That *nihil dat quod non habet*, it is an impossibility they should do. All which considered, it is much more probable, that the concomitant Feaver, according to *Aph. 47. Sect. 2.* depends on that disturbance of the Blood, caused from the pain, whilst the congregating Matter is ripening; then when its reduction into a Purulent and seperable Matter, hath abated that violence: An Opinion which holds the same Analogy to Truth, if we admit of what *Plater* writes, and make the tumor a Symptom of the Feaver. Since then, as we can impute the extravasating of the Matter to nothing, but the violent agitation of the Blood and humours from the Feaver, the casting forth of the Febrile Matter must of necessity abate that violence before it can so alter the Blood, as to be said to Putrifie. So that the disturbance being in either, no more then in an imputrid Synochus, I

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know no reason obliging me, to acknowledge any Putrefaction in such Feavers, as they term Symptomatical.

§. 2. To render this Opinion the more demonstrable, we are to consider, that as no great Perturbation of the Body can happen, but it must likewise give a disturbance to the Blood, which perpetually during life, irrigates every part of it; so we cannot expect, but the Blood so troubled, if it participate of any Heterogeneous and not rightly assimilated Parts (as often that of People apparently healthy doth) Nature either by Ebullition, or Fermentation (according to the Nature of those super-numerary Particles) always endeavours its Expulsion; in doing which, it puts the Body into a Fever equivalent to the Matter causing it. Hence those Symptomatick Feavers, which in sound Bodies had only appeared as Ephemeræ in Bodies more full of impurities, are ordinarily attended with signs of Putrefaction; There being no Species of them, either Continent or Periodical, whose Type, if the Body be accordingly qualified, it may not assume. The Principal difference being, that all Feavers which are look'd on as Symptomatical, if they proceed from any acute and sudden rising Tumor, as it agitated the Blood circulating

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circulating in the branches of the *Vena cava*, they are rather Continents then Periodicals; As on the contrary, if from Obstructions in any of those Vessels, which serve for Defecation of the Blood, as several succles of the *Vena Porta* do, to some species of Periodicals, from whose Type it is not difficult to judge which of the Viscera are defective in their office.

§. 4. As the first sort of these Symptomatical Feavers are discernable, as well from the nimbleness of their Motion, as the acuteness of their Originals; so are the latter most frequently discovered by their inactivity; the defective Viscera, whence they proceed, by reason of Obstructions not suffering the Fit so totally to dissipate the Febrile Particles, but that many of them remaining, when deprived of their activity, renders the Body for the future obnoxious to Chronick Distempers. All which considered, it seems no Paradox to reckon as well a Hectick proceeding from a depravation of the Blood it self, as a *Febris lenta* from internal stoppages amongst the number of Symptomatical Distempers; since as in the last the Body is liable to that slow Disease, from the impure supplies of the Blood, whose Saline and not easily assimilating Parts are unfit  
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for the Generation of Spirits; so in the other, their over-large expence in the preceding Disease, renders them too few sufficiently to supply, either the Heart, or Brain; whence the animal Faculty deprived of its Luminous Rayes, and the vital of its Innate Heat, there remains no more of either, then what lies raked up in dis-spirited embers: This being more likely to be the ordinary Original of Hecticks, then Internal Ulcers; most of which (those in the Lungs excepted) are attended with slow, and hardly discernable Periodications; The reason of which, as also of semi-tertians, and other complicated Feavers, I shall deliver in its proper place.

§. 5. Whereas it may be objected, that several bodies are more prone to all these sorts of Feavers, then others are; and that as well those that indeavour their *exit* by way of Fermentation, as of Ebullition, are apt to seize on bodies of the most Florid Complexions; it will be no unuseful digression, ere we proceed to the general Therapentick part, to give some reasons for it. Since then in Sanguine People, where the perfectly concocted Blood seems to have the greatest predominancy, such Feavers as are seated in there, seem to have the nearest affinity to their natural temper; which considered

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red, we should not on the first view, think them so liable to such as are produced by the irregular motion of the Humours; yet on a more serious inspection into the causes of it, we find such bodies having their Pores more lax and open, and the whole compages of their Blood less firm and compact, then those of more cloudy Constitutions, it will easily appear, that by this lax texture of their Blood they are altogether as apt to receive those Heterogeneous Particles contracted from an undue separation; and although they are more rarely burthen'd with them, then people of firmer Constitutions, and such whose more compact Blood hath not so many Receptacles to entertain them, yet when any such are generated in a quantity too great for Nature to mannage, as sometimes (even in the best constitution'd Bodies they are) a Periodical Feaver may likewise happen; the Receptacles fit for the entertaining of the Morbifick Matter being in such Bodies so capacious, that Nature is not much oppress'd, till they are grown so numerous; as not to be expell'd with less trouble then what puts the body into a Feaver: whereas in such whose Blood is of a closer contexture, there can be no such quantity of Peccant Matter received, before a defect of Pores fit for its reception withstanding the admission

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admission of more, the Fermentation begins, but in such a manner, as having its Original from a smaller number of those Febrile Particles, it gives Nature no such disturbance as deserves the Name of a Feaver, only appearing in those frequent, but slight disorders, we so often meet with in Hypochondriack and Scorbutick persons; which Bodies, although often troubled with small Fermentations of this nature, are notwithstanding less obnoxious either to absolute Feavers or Agues; the Matter being ordinarily dissipated by sudden heats, spontaneous Lassitudes, or the like, if tending to a Periodical; or if to any Species of a Continent, thrust out in Inflammations, Pustules, Sweats, Diarrhea's, or some Evacuation of that Nature: So that such Constitutions, although an aptitude of being disturb'd on every slight occasion, renders them seldom well, they are notwithstanding rarely assaulted with any dangerous sickness; which having noted by the way, I shall now proceed to what concerns the Therapeutick part of all Feavers in general, which (according to the present Hypothesis) I shall handle in a method something different from what hath been formerly in use; the most of which seemed rather to strike at the attending Symptoms, than the radical Cause of the Feaver.



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§. 6. The indications in all Feavers, not being by the Ancients, as in other Distempers, taken from the Disease it self, or the Cause of it, but from a Complication of both; which declares them to be assumable from all things which either respect the preservation of what yet remains sound, or the expulsion of what is Peccant; in performing of either of which (notwithstanding the variety of Indications) they made use but of two of the things indicated, namely, the allaying a Preternatural heat, and removing the Putrified Matter. The ways of doing which, whilst some multiply into an unnecessary variety, others seem to confine within too narrow bounds, referring it to no more then to such a moderating the violent commotion of the Blood, that its course may not be so rapid to exceed its Natural Velocity. Others without endeavouring a removal of the Cause, premise an extirpation of the Feaver by so facile a way as only laying it to sleep with a dose of Laudanum, or treating the Patient with a glass of Sack, either of which ways, notwithstanding the reputation of their Author, we have reason to doubt would prove a vain attempt towards the allaying of so stubborn a Disease. It being much more rational, that as it proceeds from different Causes, so the Cure of it should

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should be indeavoured by Applications of the like variety; which although to be changed according to each particular Species, yet requires no other Indications then what we are directed to by the several Stations of the Disease, the Increment, State, and Declination; not only requiring Remedies proper to their several Stations, but also such, as have a peculiar respect to the nature of the Matter, which is the conjunct cause of the Disease. For since all Feavers, of what Type soever, whether they endeavour it by Ebullition, or Fermentation, have one Universal end, *viz.* the cleansing of Blood, and ejection of that Spina which disturbed it by despumation; so the curative Indications seem to depend wholly on what assists Nature in that design, which being to be done several ways, we have no better rule in directing us, which to make use of, then what may be taken from the example of a skilful Chyrurgeon ordering his Patient in a Tumor; That being a Disease, which, if rightly considered, will appear to have so near an Analogy with a Fever, that they both proceed from an endeavour of Nature to discharge it self of something, that is so redundant in quantity, or offensive in quality, that the violence she uses for its ejection is such, that if the matter be contained in the  
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Vessels by accelerating its motion it causes a Fever, or if apt to extravasate by an accumulation of it in some particular part, that pain and pulsation of which we are sensible in tumors. So that both these Diseases (their Causes considered) seem to proceed from an Analogical Depravation of the Blood; a Fever being but a Volatile Tumefaction or Turgescencie of it; and a Tumor, a Product of the same cause, confined to a peculiar part.

§. 7. Since the novelty of this Opinion must expect to encounter some opposition, it will not be amiss more fully to make it out, which may be in some measure done by observing, that most External Tumors we see, are either Phlegmons, or such as have at the least the greatest measure of Blood in their composition, I mean such as proceed from the Sanguinary Mass, not those Schrophilous Excrescencies, so frequent amongst Children; which being rather a Depravation of the *Succus Nervosus*, we shall not meddle of here, but rather of those that fetch their Original from the Sanguinary Mass, or its assisting Parts; amongst which the chiefest thing observable, is, that as Phlegmons are more frequent then other Tumors; so Continent Feavers, which are but a kind of Circulating

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Circulating Phlegmon, are much more rare than other Feavers, perhaps from the Aptitude of so spirituous and active a Substance, either to fly off in Hemorrhagia's; or being otherwise extravasated, produce a Phlegmon: whilst on the contrary, such parts of the Circulating Mass as are sent in as Assistants, either to the Exaltation or Preservation of the Blood, being by reason of their composition not so apt to fly out of the Vessels, become more often disturbed within it, and consequently prove the more frequent Cause of Feavers, than such Tumors which being deposited into some External Part, there prosecute that change we call Putrefaction, without disturbing the rest of the Humors, by the continued Circulation of Heterogeneous Matter; though sometimes, if they arrive not to Despumation by their Feaverish Paroxismes in that Tumult, hastning to their segregating Vessel, they either there, or in some adjacent part, lay the Foundation of those slow, but dangerous Impostumes we often find in these Internal Parts: some of which have been observed to discover their obscure Original from being more turgent and troublesome at those times, a Feaver of the same Nature should have expected its Exercibations; So that from what hath been said of the Nature of Tumors, it will not

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not be difficult to deduce some rational Indications tending to the Cure of Feavers; it being congruous to Reason, that as the Chyrurgion uses one way for the suppuration of Phlegmons, another ~~to~~ Schirra's and adematous Tumours; so a like change of Matter being the intention of Nature in Feavers, we are to give it our assistance accordingly.

§. 8. To make this more apparent, observe but the ordinary Process in the Curing of Tumors, and we shall find it very Congruous to what reason dictates as the Principal Indication in freeing the Body of Feavers. As the Chyrurgion after he hath found out the nature of the Tumor, makes his next inspection into the time of its duration; and if finding it but newly appearing, indeavours to suppress it by repercussives; But if the accumulation of the Matter, be already too great to be repell'd, he then applies himself to its discussion; or lastly, if the time be too far spent for the performance of that, by such Medicines whose External heat is Congruous to Nature, he so tempers the agitated Matter, till its Tumultuous Particles are reduced to that more peaceable Position we call Putrefaction; in which, as Cadaverous and wholly discordant to all the Pores of our Bo-

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dy, he no longer endeavours its Reassimilation, but with what speed he can hastens its Ejection. Which process directs the Physitian, that if he finds his Patient but newly seized, an Ephemera, or Imputrid Synochus, but beginning to boyl the Blood, he will find it a matter of no great difficulty, by rest, and cooling, and restraining things, to suppress it, and that (if no Plethora hinder) without any Artificial Evacuation: but if the offending Particles are grown more numerous, he then not only indeavours to give them vent by opening a Vein, and the use of Emetick and Cathartick; Medicines, but also (which absolutely corresponds with discutives) indeavours its Expulsion by Sudorifick, and dispersing Medicines; either of which Operations accidentally hindered, or untimely took in hand, the Disease now attaining its acme, and the Morbifick Matter in its present Position neither capable of being suppress'd, or expell'd; the last attempt is so to alter the texture of its Parts, as to make it fit for Ejection, which is that *crassitudo* or Concoction of Humors mention'd in *Aph. 22. Sect. 1.* and agrees with what we call suppuration in Tumors; in so much, that the disproportion of the Matter to be digested to the Pores of its Vehicle, (as in venomous Tumors, and Pestilential Diseases)

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ses) or the stiptick and saline quality of the Vehicle it self (as in Cachectical or Scorbutick People) as in either of those cases Tumours are with much difficulty brought to digestion, so are Feavers with the like trouble Concocted, and made fit for a Critical Evacuation, and consequently the Cure of both of a more then ordinary difficulty. From all which is manifest, that as well the Suppuration in Tumors which makes them fit to be open'd, as that Concoction in Feavers which renders them capable of a Critical Evacuation, are both of them, either the Product of Heat, or Fermentation: which when once begun, if for the fore-mentioned reasons it proceeds but Languidly, or becomes otherwise irregular, the Feaver degenerates into a Hectick or Febris Lenta, and the Tumor into an incurable Schirrus.

§. 9. Having spoken thus much of the general Indications, it will be proper here to deliver my Opinion of the thing indicated; these being the Instruments; that, the hand which directs them, considering them as they are to be made use of in either of the fore-mentioned Stations of the Disease. Whilst then the disturbance is only from the newly entred Febrile Particles, whether external, or Internal, and that they are so late-

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ly admitted, as not yet to have polluted any other parts of the Circulating Mass; for the exact measure of which time (since varied according to the swift or slow Motion of the Peccant Matter) although it is only the Physician present that can perfectly know it, yet is it ordinarily taken to be till the first Indicatory day, till after which time we are to handle it as a Tumor which is to be repercut: or if the Body be Plethorick, or the Disease (as it often happens) like to pass suddenly to another station, though it may yet be possibly suppress, the safest way is (if it be a Synochus) ere the Febrile Particles have Circulated long enough to contaminate the whole Mass, to cast it out by moderate Sweats; but if by the violence of the Symptoms we discover this first assailing Matter too large in quantity, it will be convenient ere we Sweat, to abate some of the Matter by Phlebotomy; since if otherwise the Sweat should prove too weak to remove it, the agitated Matter should translate it self to some noble Part. Neither are evacuations by Vomit or Stool, (although not so absolutely necessary in these as in Periodical Feavours) to be wholly omitted; the Stomack Ferment, being Vitiated, e're cast out of the Arteries so speedily Communicating a fowlness and loathing, that it is of-  
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ten discernable as soon as the Feaver it self, and also much allayed by such gentle Evacuations, as without giving the Body any great disturbance, do with care carry off the depraved Matter; and therefore may be successfully used, although the more genuine Cure is to be sought for from such means as both abate the quantity, and allay the Ebullition of the Blood; whereas on the contrary in Periodicals these kind of Evacuations (especially Emeticks) ought always to precede, not only Sweating, but unless the matter be very Turgent, even of bleeding it self; The reason of which is, not only as the offending Particles are sent from some Internal Parts, but also as they are lodg'd in a Vehicle too feculent and gross for such a kind of Expulsion, to carry off such a quantity of it, but that its continual supplies will give it a new Fermentation; in the allaying of which, more then Evacuating the Matter, the chief Cure of Periodicals depends.

## C H A P. VI.

*Of Periodical Feavers in Specie, as well  
Continents as Intermittings. And first  
of Tertians.*

## The Contents of the Chapter.

*The difference between Continents and Intermittings rather in the manner of that offence, then in the matter offending. §. 1. Why I begin with Tertians. §. 2. A Tertian defined. §. 3. No Internal depravation of the Blood but what is caused by something consimiler to what we call humours. §. 4. Whence the Preternatural Fermentation. §. 5. What causeth the shaking Fit, the remifness of the Pulse, and the succeeding heat. §. 6. The cause of the shortness of the Fit, and colour of the Urine. §. 7. A Tertian from Excrementitious Choler: §. 8. Why the Paroxisme assails in such set Periods of time. §. 9. The reason of the Prevention and Augmentation of the Fit. §. 10. Why they degenerate into double and bastard Tertians. §. 11. Why it sometimes terminates in the jaundies. §. 12. Whence the erysipilas appearing in the Lips. §. 13. Why*

it so often terminates in a Bilious cholick or sharp Diarrhea. §. 14. A continued Tertian defined. §. 15. They disturb the Blood as well by Ebullition, as by Fermentation. §. 16. Whence the uncertainty of their exacerbations. §. 17. What benefit we receive from bleeding, and other evacuations in Tertians of either sort. §. 18. The use of alterative and digestive Medicines. §. 19. How the tone of the Liver is to be preserved. §. 20. What Benefits are to be expected from the Periapta, and other Topical remedies. §. 21.

§. 1. **T**HE difference between continued and intermitting Feavers, having been already proved to be rather in the manner of offence, than matter offending; it thence seems more rational to Treat of each particular Species together, then according to the ordinary custom, either for discovering their Causes, or Prosecuting their Cures, to handle all continued Periodicals with one general Method, that rather endeavoring to all the Symptoms, then eradicate the Disease.

§. 2. Those that Treat of intermitting Fevers usually begin with Tertians, perhaps as they take them to degenerate less from the natural Crasis of the Blood, then those of

any other Species. The definition which they gave intermittings of this kind was, an excrementitious Choler putrifying in the Miseraick Veins (which was that they called without the Vessels) which (the Focus they assign'd it to putrifie in only excepted) is not so discordant from truth to be wholly rejected, the difference as to the Cause of the Disease being only nominal; one part by what they call Choler, understanding a matter of the same nature with what the other call Sulphur. For the manner of Putrefaction, and place they assign it to Putrifie in, the controversie between Authors is so great, that to avoid the danger which might ensue on such variety of Opinions, I have made choice of the following definition.

*An intermitting Tertian is a disturbance of the Heart from a Preternatural Motion of the Blood, caused for want of a due separation of its Bilious or Sulphureous Particles.*

§. 3. In this definition, a matter preternaturally mixt with the Blood, serving as the genus to intermittings of all sorts, the difference by which each several Species is distinguish'd one from another, lies in the variety of the Matter so mix'd, which, in that

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we now handle, being an excrementitious Choler by frequent Circulation depraved, and consequently of no further use in the Circulating Vessels, distinguishes it both from a Quotidian which hath its rise from an undepurated Chole, and a Quartan proceeding from an ill ferment of the Spleen; whereas here the defect being in the Liver, the Saturation of the Blood with what ought to have been in that part separated, gives the primary occasion of the Paroxysme, so confirming our former definition of its being caused by a Preternatural redundancy of excrementitious Choler.

§. 4. I may here perhaps be taxt by some for seeming to endeavour the restauration of that near exploded Doctrine, of placing the material Cause of all Periodical Feavers in the Humours, and from them deducing those varieties which later Writers impute to a fermentative Diathesis of the Blood, varied according to several accidents. To which I answer, That although I shall not with the Ancients acknowledge any such putrefaction of Humours in a peculiar Focus as they supposed, yet on the contrary I cannot consent to any other depravation of the Blood, but what is caused by a redundancy of a Matter consimiler to what we formerly called Humours; for it being by all acknowledged,  
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that there are such Sulphureous Saline and Pituitous Parts to be separated from the Blood for its necessary depuration, I cannot conceive any more probable way of rendring it impure, then by its being over-saturated with any of those unseparated Particles, when by frequent Circulations they are become Excrementitious; they then, on any preternatural retention putting the Blood into a Fermentation peculiar to their perticular Natures, the defect of the depurating Vessels in this case performing the office of the Focus formerly mentioned; the vanity of which opinion being rejected since the knowledge of the Bloods Circulation, denies not a similar taint from the re-admission of such a matter as I even now mention'd, the reception of that being from the defect of some depurating Vessel, having no such difficulty; it here still Circulating with the Blood, and beginning the Preternatural Fermentation from its own default, not from any Putrefaction in a peculiar focus, or any previous Diathesis of the Blood, more then the fore-mentioned re-admitted Matter is the conjunct cause of.

§. 5. Having elsewhere made it appear that the Bilious Particles, which on their first admission into the Blood served both as a  
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spur to incite its Motion, and a Balsome to preserve it, when in the performing of that office it is become adust, the Matter so changed ought to be segregated in the Parenchyma of the Liver, which not being done, but that they are again in that depraved condition return'd into the Vessel, they at length so alter the natural tone of the Blood, that together with themselves they also put its more temperate Parts into that Morbifick Fermentation we call the Ague, whose cold Fit continues till frequent Circulations hath so volatized the Matter offending, to set the more consistent parts at liberty ; to which state arrived, after a previous Conflagration, it terminates in Sweat. For the clearer Demonstration of which, I shall make a brief reflection on such Diagnosticks, and Prognosticks, as discover the difference between this and other Agues, the chief of which are taken from the inequality of the Pulses, the colour and Contents of the Urine, the manner of the Fits assailing, and the time of its continuance. All which, although Originally from a Disordered and Morbifick Position of the Bilious concomitants of the Blood, notwithstanding admit of several varieties, both as to the time in which the matter is moved, and the manner of Motion. The variations of the Pulse, and the manner

manner of the Fits assailing, proceeding from an incongruity of Parts between the Recipient, and Matter to be received; it being such, that on an endeavour of the Heterogeneous Particles to re-enter their former receptacles, puts the Blood into a troubled and unequal Motion, rendring the Spirits which have their residence in its most perfectly concocted parts, so clog'd by their association, that resigning their Regency they suffer the aqueous Vehicle only to Predominate; which having (as proportionable to its Pores) imbibed some of the halinitrous and most Fugitive parts of the offending Matter, e're the more consistent can follow their Career, conveying them to the Heart, it gives such an allay to the Vital flame, that the retracted Spirits being not diffused through the Body, the extream parts are tormented with a rigid cold; and the Arteries not having a sufficient Dilatation from the imprison'd Spirits, wanting strength to elevate the Pulse, suffers it to be low and remiss; which Scene continues not long before the same frigorifick Atoms communicating themselves to the Nerves, the horror ensues, which in this sort of Ague is more extream than in others, where those active Bodies are less Minute. So continuing till by frequent Circulations the Matter, which on  
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its first intrusion was too stubborn, becomes volatilized. To which state arrived, the shaking ceases, and a heat, not less troublesome, succeeds, its assault being such as benumb'd limbs feel, when suddenly exposed to the fire e're any medium hath prepared the Pores for its entrie, the speedy return of heat proving troublesome, by a violent forcing of different and acute angled Bodies into receptacles lately oppress'd by such as were of a different figure.

§. 6. For the time of the fits continuance, with the Colour, and Contents of Urine, they both depend on the Motion of the Biliary, and now grown Excrementitious Particles; the activity of their parts so agitating the Blood in legitimate Tertians, that it needs no other Motive to promote its Fermentation, Nature being forc'd to discharge it self of such impetuous Enemies once in the space of 48 hours, (Probable the time which in sound Bodies it continues serviceable within the Vessels.) In which compass of time (being now grown Morbifick) instead of performing their natural task, they exercise their power in such disorders of the Body as are visible in a Paroxisme. - In whose time of duration, the Urine, notwithstanding the varieties of heat and cold felt in the Body, continues

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tinues its high and Billious colour, either with or without any Matter subsiding, according as what is to be precipitated is prepared. The cause of which I conceive to depend on the Motion of the Lymphic Parts of the Blood, containing in it few or none of those precipitating salts, which causes the Urine to descend; but rather composed of what is adapted for exsudation. By which means there being but little Serum carried into the Bladder, till such time as a continued conflagration hath rendred it more Saline, and then such crass Sulphurs as were too corpulent to transpire by Sweats being also precipitated with it into the Bladder, proves the cause of that high Colour of the Urine visible in these Agues, which although proceeding from a Matter Originally Bilious, is notwithstanding void of all bitterness, that being wholly taken off by that alteration the Cholerick Particles suffer from the operation of those precipitating Salts which send them downward.

§: 7. Having thus, both from the Causes, and most remarkable accidents discoverable in this species of Intermittings, proved it rather to proceed from a Bilious recrement of the Blood, then any other matter; I shall however farther confirm it (as also the man-

ner of its introduction ) by making some farther inspection into the ordinary Species of Intermittings. Such as are to be reduced to neither of these Heads, being anomalous, and to be prefer'd rather to other Accidents than a meer depravation of Humors; it seeming most rational, that as one Species depends on a defective Depuration of the Chyle before made Blood; and another, on such a renovation of it, when decay'd, as renders it again Nutrimental; so (as a medium betwixt these two) there ought also to be a third Species that depends on the Blood it self, whilst fit for Circulation: In which the agitation that constitutes the Feaver is not (as in either of the other Species) from encountering in the Vessels a matter, which it ought to have seperated by Fermentation in some Viscera ordained for that purpose, but only such as, when by a defective percolation in the Liver it is return'd again into the Mass of Blood, doth there, by a bare endeavour of re-entring its formerly deserted Pores, put that into a violent Agitation, which it ought only to have incited to a gentle Motion, so beginning the Fit, not as either of the other Species, by disturbing the Viscous Phlegm, as in a quotidian; or Saline Feculancies, as in a Quartan; or any other Matter concomitant with the Blood; but meerly by its own disproportion  
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of Parts and Irregular Motion ; which it is Demonstrable that the Billious Particles, as the promoters of its Natural Velocity, are more likely to be the Authors of, then either the Flegm, that is only ordained to cool and temper the Blood, or the Saline Matter, whose Office is to give it a due consistence. The truth of which opinion will further appear, by taking a view of such Accidents as are the ordinary Effects of this forementioned irregular Motion, the chief of which are,

1. Why the Paroxisme is once in 48 hours.
2. The cause of the Augmentation, or diminution of the Fit.
3. Why it degenerates into a Quotidian, or bastard Tertian.
4. Why it terminates in the Jaundies.
5. Whence an erysipelas, and what it signifies in the beginning of the Ague.
6. Whence a Diarrhea or Bilious Cholick often terminates it.

§. 9. In proving the first of these to depend on the disposition of a Peccant Matter into the Mass of Blood in such a number of Circulations, we are to observe, what pro-

to observe what produceth that alacrity which is in the Body after the full termination of every Fit, the succeeding night commonly affording moderate rest, which the preceding seldom doth. The cause of which is, that the Blood then begins to be overburthen'd with those Heterogeneous Particles, whose intrusion cause the Fit ; which however do not yet so far prevail over the more amicable and Balsamick parts to give Nature that disturbance, till the Blood becomes so over-charged, that it wants Pores to entertain them. The approach of which time is discoverable by the indeavours of some part of the Peccant Matter to Restagnate in the Parenchyma of the Lungs ; where not being capable of sufficient Refraction by the inspired Air, as also, not finding the Pores, it is to pass Adequat to its own Dimensions, it by over-extending them, causes a deficiency of breathing, with an oppression of the Breast ; which Nature striving to relieve by fuller draughts of Air attracts it by those frequent gapeings, commonly preceding the Paroxism, which (the Excrementitious Matter now flowing in full Channels through the Heart) suddenly insues ; the degenerate Serum by the nimbleness of its Motion beginning the cold Fit, and the Nitrous and Acid Matter, being sent mix'd with the  
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Lympid juice into the Nerves, the shaking; which by reason of the acute and vellicating proportion of the Matter causing it, as it is for the time more violent, than in other Agues; so it sooner terminates; those nimble Bodies speedily putting their Aqueous Vehicle into so violent a Motion, as fits it for Despumation. Arrived to which state in Legitimate Tertians (where what offends is easily Transpirable) in the space of 12 hours, it wholly expires, leaving the Body at rest til the defective Percolation of the Bilious Particles sends a new supply to the Blood; which although it may be hastned or retarded, according as the Aliment received in the intermission participates more, or less of Sulphureous Parts; yet according to the common course observed in Natures Chymistry, it happens in the space of 48 hours. In which time the Blood in a healthy state of Body, ought wholly to be freed of such parts, as frequent Circulation hath rendered Heterogeneous. In which operation when opposed by a preternatural Intrusion of what it had formerly ejected, as Excrementitious, the forementioned Perturbation immediately insues.

§. 10. It being commonly observed, that in the true Tertians, the Fits beginning re-  
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miss, have their Increment to the fourth, at which time by a plentiful Despumation rendering Nature able to command her Enemy, they decrease to the Seventh, and then for the most part wholly Terminate. The reason of it seems to proceed from some small remainder of Heterogeneous Matter left in the Circulating Vessels after every Paroxysm; which although not so numerous, as to give the Body any signal disturbance; yet it proves enough by its Combination, with what is brought into the Vessels in the time of the Intermissions, not only to anticipate the Fit, but augment its Vigour, by forcing the Vital Spirits for the Exclusion of the intruding Enemy to summon her greatest Forces. Which (as I have formerly said) from the necessities of Nature to avoid a Suffocation of a lump of Life when oppress'd by such a Multitude of fuliginous Exhalations, where there is much Matter Accumulated, and her attempts not otherwise impeded, happens in the Fourth Fit. From which time, if Nature prevail, the declining Disease hastens to its Conclusion, but if in the Conflict the enemy proves too numerous to be expell'd, her baffled Forces making but faint attempts in the succeeding Paroxysms, the Victorious Disease Threatens a longer continuance of its Tyranny; yet notwithstanding abates of

its strength by reason of the depauperated Blood's producing fewer Bilious Particles. This being that doubtful state of the Disease when Fits become uncertain and the Ague apt to Transmute from one Species to another, the Fits (by reason of the overlarg exhausting of the Serum, in the grand Paroxysm) beginning with less cold, and little or no shaking, continue with much and troublesome Heat, and go off with little or no Sweat. All which threaten the Ague's degenerating into some of the tedious and troublesome Distempers we shall mention in the next Section.

§. 11. The alteration of true Tertians into double or bastard Tertians, thence into all sorts of Erratics, and lastly, into Quartans, seems a thing of much difficulty, if we consider that as it is seated in the Mass of Blood, it hath no such easie way of contaminating the Chyle, that it should put that Matter, whence a quotidian hath its Original, into the Morbifick Motion, or so to increase the Saline and feculent Particles as thence to provide Matter for a Quartane; All which notwithstanding we often perceiving that it doth, it may be worth our time to look more deliberately into the Cause of it. Which (with submission to such as shall



shall state it better) I think to be as followeth; That when a long continuance of the Feaver, accompanied with such accidents as I mentioned in the former Section, hath so loosned the Fibers of the Blood, and rob'd it of Spirits, that Nature hath not strength enough in the Conclusion of each Fit to discharge the offending Bilious Particles, but that the over-satured Blood, besides the ordinary way by the *Vena Porta* is also forc'd to exclude a part of it by other Vessels, some of it entring the Mesenterick Arteries, and mixing there with the insipid and Excrementitious Phlegm is together with that carried into the Bowels, where mixing it self with the *Stercus Liquidum*, it is sometimes carried off in a sharp Diarrhæa, or (which is more usual) suck'd off with the ill concocted Chile, by the *Vena Lactea*, and with those other impurities sent into the Chyliferous Vessels; whence (instead of nutritive juice) furnishing the Mass of Blood with an Acrid and Morbifick Substance, it by a two-fold Cause continues the Disease, the constancy of the supply (it being now become an associate of the Chile, and by reason of its form not seperable in the Glandules of the Mesenterie) forcing Nature to a frequent expulsion; which the Tenaceousness of the Vehicle rendring it not able to per-

form, from the one proceeds the Diurnal exacerbations, and from the other the length of the Fits continuance ; with this only difference, that if the Bilious Particles have for their associate most of Excrementitious Phlegm, it causes a bastard Tertian, if of depraved Chile, a double Tertian; either of them being apt to change Types, according to the Predominancie of the Matter causing them ; as also, when so constant a fermentation hath rendred the whole Mass of Blood loaden with fixt and Saline Parts, to Degenerate into a dangerous, and often mortal Quartan,

§. 12. This being the time, in which Nature, now grown so weak to encounter her enemy (although feebly) leaves no way to freedom unattempted ; one of which, is by what we call the Jaundies, a distemper which hath a two-fold cause, one from a disorder of the Bilious Particles in the Liver, the other from a defective separation of the *Stercus Liquidum*, or ferment of the Chile ; the first of which, as peculiar to continued Tertians, or at the least a Legitimate Intermitting, is observable to the unfolding the sense of the 60 Aphorisme of the fourth Section; where we are told, that this Disease coming before the seventh day,

day, is a bad after a good sign. The reason of which, I take to be from Natures being forc'd to that untimely expulsion, either by an Acrimonie of the Blood, or a redundance of Humours, which entring Pores not fit for their expulsion, proves the material cause of Dangerous, and frequently mortal Symptoms; whereas, if it be so gentle to stay till a perfect maturation, which cannot be till after the seventh day, the matter being then by frequent evaporation proportion'd to the Pores it ought to pass by, hath a critical and Salubrious, not a Symptomatical and dangerous Ejection. For the other sort of Jaundies, as being caused from a different Matter, and appearing as a Symptom of another Disease, I shall give my opinion of it elsewhere; and here only answer an Objection, that may be rais'd concerning this we are now handling; which is, that if the Bilious Particles, that breaking out cause the Jaundies were before their Eruption, in the Mass of Blood, it could not circulate without giving it a disturbance, and consequently, there could be no Jaundies without a preceding Fever; To which I answer, that here the mistake lies, in what is the material Cause of either Disease, Choler becomes Excrementitious being only capable of causing a Tertian Fever; whereas, whilst natural as

to the position of its Parts, although exceeding her Dimensions on the quantity of the Matter, it may cause an Icterus, and that without any Feaver, either preceding or concomitant, although (as I shall elsewhere demonstrate) the ordinary Jaundies is from a matter, that hath a greater affinity with a Quotidian, or a bastard Tertian, then any species of the same disease, hath with a true Tertian. A Distemper which hath its Original from parts so Minute, and full of Activity, that whilst the Feaver continues in any thing of Vigour, there is rarely any change of color communicated to the skin, by reason of the Bilious Particles, being in the Paroxysm rendred so tenuous, that they always transpire without sticking in its Pores, and consequently, this Disease never hapning but when the Matter grows too compacted for so nimble an Evacuation.

§. 13. For the ordinary way (especially in true Tertians) of expelling the Morbifick Matter by Pustules breaking out (most commonly about the mouth, but sometimes all over the Body) in manner of an Erysipelas, there is an appearance (as indeed in most other ways of expulsion) no certain judgment to be given; yet (since often happening) we are to consider, both whence it pro-  
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ceeds, how it comes to extirpate the Matter of the Ague, and why it is not always successful in that attempt. For the first, the Matter they are composed of, is of such Particles, as having been in their depraved condition (although full of Acrimonic however) of too fixt a Nature to be easily moveable, till made volatile by the vigor of the Disease; arrived to which state, yet being too gross to Transpire by Sweats, it is commonly discharged by the Lips, as parts whose opener Pores and softer skin gives it the most easie passage; suffering it there to vent what was most likely the radical Matter of the Disease, and (whether Circulating with the Blood, or obstructing the Liver) twas still the Radix from whence all the larger extended Symptoms had their Originals; since if other ways their eruption would do no more then terminate the Fit; whereas we often see it irradicates the Disease; which if failing to do, it is always observed, that after this Evacuation, continues more contumacious then before. The cause of which is easie to be conceived, if we but consider that on the vain emission of this (the most volatile Matter) what remains, must of necessity be of a more stubborn and impenetrable Nature.

§. 14. Another way by which this Radical Original of Tertians endeavours its own Exclusion, is by Translating the Matter offending to the Guts, and so endeavouring to carry off the Disease in a sharp Diarrhæa, which sometimes (the heat of the Bili-ous Particles over-baking the Excrements) stopping on a sudden, doth so retard the ordinary passages, that those Saline and pungent Bodies associated with it, insinuating themselves between the coats of the Guts, the beginning Diarrhæa frequently concludes in a Bilious Cholick; either of them apt to Transmute into the other, and both often caused by an inconsiderate Application of attractive Topicks to the Stomack, as also sometimes carried by large Sweats, or plentiful Excretions of Urine. Either of which ways, before some of the grosser Matter is expell'd either by a Diarrhæa or a plentiful Eruption of the forementioned Pustules, are rarely found to carry off the Cause, even of an absolute Tertian. Whence it appears, that although these volatile Parts of undecated Choler, whose preternatural return into the Blood, causes the Paroxysm, may be so expell'd; yet there is (as the primary Cause of these Obstructions that hinder the Liver from performing its Office) a more stubborn and fixt Matter still remaining be-  
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hind, whose tenaceous parts require for their expulsion more substantial Evacuations.

§. 15. Having thus handled such Accidents, as are incident to Intermittings, I shall now take the like view of Continueds of the same species; a Disease which (according to my proposed Method) admits of the following definition.

*A continued Tertian is a disturbance of the Heart, from an Excrementitious Choler Preternaturally detained in the Circulatory Vessels.*

Having made it appear, that as an Intermitting Tertian is from a want of separating the Excrementitious Choler from the Circulating Mass; so is it now to be proved, that a Continued is from the same Choler, by reason of some Obstructions in the Vessels, or some impediment, not duly sent to its segregating Vessel. The cause of which having handled where I Treat of Feavers in general, I shall here only endeavour to make it appear from the accidents attending it, that it rather proceeds from a preternatural retention of some such Excrementitious Matter, then from any of the causes formerly Assigned it. The truth of which Assertion will

will be more manifest if we consider, that Bodies which participate most of such Volatile and active Humors, as were formerly Assign'd for Causes of it, do notwithstanding rarely contract these sorts of Feavers from any Procatactick Cause, as what by violently agitating of the Blood, gives it a disturbance, or the like; such Bodies notwithstanding their Cholerick constitutions, being on any such occasion as liable to Ephemeraes, or any Species of a Synochus, as others; which argues, that it is not the Natural Sulphur's always Circulating with the Blood, but such as by reason of some obstructions (that office being perform'd) are not seasonably removed, which are the real cause of this Disease; there being nothing more likely, then that a Matter there detained, after grown Excrementious, should put the Blood into a preternatural Motion, congruous to its own Activity, and also such as since begun within the Vessels can admit of no perfect Cessation there, till such time as all the first incendiaries (the Febrile Particles) are either exhausted in Sweats, or deposited into some part of the Body for a different Evacuation. In which time it is also intended or remitted, according as the supplies of the Bilious Matter are sent into the Vessels, since those having a consimilare  
forme



form to what first gave the Blood a disturbance, do by their Periodical Association advance (what the first Assailants, being now grown languid, but slowly continue) into the sharpness of a Paroxysm.

§. 16. In this Disease (being that Species of Feavers, which from the activity of the Matter causing it, most frequently assaults human Bodies) we are to note, that notwithstanding the affinity it hath to those natural Sulphurs, that constitute the vital flame, it begins not the Paroxysm with heat (the most natural effect of such Bodies when put in Motion) but being now degenerated into an Excrementitious and seperable State, like other Heterogeneous Matter, endeavouring to enter Pores unsuitable to their Dimensions, it always begins with Fermentation; a Motion, which although the most suitable to its present condition, proves in a short time too slow for its further progress; since (although but the ashes of that æthereal fire, on whose energie the actions of life depend) when by its Fermentative Motion it hath attained a sufficient Volatilitie by the violence of that Motion giving fire to its original Sulphurs, (though beginning with cold and shakeing) the future stages of the Disease are prosecuted with almost a constant  
Ebullition

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Ebullition, as well as a slower and Periodical Fermentation, it being from hence, that we commonly see those Feaverish People, in whom there is no perfect apurexia, pass the intervals between the Paroxisms with so much disturbance; the confused Blood now tending to a Suppuration, prosecutes it as well by the irregular Motion of the Natural (though now depraved Sulphurs) as of those Excrementitious ones; which from a different position of their parts required the like various ways of ejection; It being these Feavers, that, by reason of the Universal Accension of the Sulphureous part of the Blood, the Paroxisme being scarce visible, are commonly mistook for burning Feavers; and consequently the indeavours of the Physitian chiefly aym at allaying the heat, which he takes to be the primary Cause of the Disease; by which error giving an untimely check to that Fermentation, by which Nature endeavours the expulsion of the Excrementitious Sulphurs, the Feverish Matter either in Mortal Symptoms translates it self to some noble Part, or (which frequently happens) being over hastily precipitated to its segregating Vessel and the Parts adjacent, lays there the Foundation of such obstructions, under which the Body languishes in a tedious Atrophia, or at least attempts  
its

its freedom by long and irregular Agues.

§. 17. The uncertainty of your Paroxysm in this sort of Feaver, proceeding (in the manner of double Tertians) from a complication of the Matter, I shall refer you to the Section where that is handled for the discovery of its Cause, as likewise to their several Chapters for the Signs, by which it is discernable from Quotidians, or Quartanes, whilst I here make a more diligent inquiry, how it is to be distinguished from a Putrid Synochus, a Disease to which (by reason of the inflamable Nature of the Matter causing it) it hath the greater similitude; the principle distinction, that is commonly taken notice of depending on the Exacerbations and remissions of the one, and the defect of it in the other; which Signs, although not wholie to be rejected; I take the more absolute discovery, of the Type of the Feaver to be the Continueds beginning always with cold or bruising, the other not; such an ingress being an infallible sign of the Feavers, being Periodical, although for the future term of the Disease, by reason of the violent Affliction of some particular Part, or other accident, diverting the thoughts of the Patient, the exacerbation is sometimes not discernable; which error in Practice if  
more

more carefully observed might free us from those ordinary mistakes of endeavouring the Cure of Continents and Continueds alike. How they differ in their Indications will be discernable by comparing what I shall deliver concerning the Cure of Continents, and the Disease I at present treat of. The principle Indications in this (being the Feaver we most frequently are concern'd in) are on its first ingrels, ere the Matter offending tends to a more peaceable Suppuration, to endeavour its Ejection by the opening of such passages as oppose it; In which case, Vomiting and Phlebotomie (if there be no contra-indicant) are of good use, especially if timely applied, either of them to precede as the necessity of the Disease, or Symptoms shall require, and the Judgment of the Physitian think fit. But the Disease being now drawing towards its State, and the Peccant Matter so fully mix'd with the Circulating Mass, that it is not safe to alter the position of its parts without checking that progress it is making toward Suppuration, neither of them can be admitted with the like safety; all that the Physitian hath now to do being gently to assist Nature in those ways, by which he perceives she endeavours the Expulsion of her Enemy, and that although the violent Motion of the fermentative Matter hath now  
also

also put the Blood into an Ebullition, he doth not endeavour the suppressing of the one, by what wholly destroys the other, but rather so gently to regulate the over-violent Fermentation that its more peaceable proceedings may no longer put the Blood into so tumultuous a Motion. A far safer expedient then to allay the accidental heat by things of a contrary quality; or in this state of the Feaver by forceable Sweats, to endeavour to force the Morbifick Matter (whilst of contrary Dimensions) through Pores which Nature's Instrument (the Febri-fick Ferment) hath not yet fitted them to pass.

§. 18. Referring what is further to be done in continued Tertians, to the Chapter where I handle the *Therapeutick* part of Feavers in general; I shall in the next place with the like brevity give my opinion in what concerns the Cure of Intermittings of this Species; especially in what they differ from others, that have likewise their peculiar Paroxisms. Experience having in this Disease, notwithstanding its Original from a Bilious Matter, found Bleeding, frequently beneficial; I shall first deliver my Opinion concerning it, which is that (notwithstanding the Authority of several good Authors) I take

it to be a remedy much more proper in Continueds of this kind, than in Intermittings; since being not to be admitted in the Parox-ism, a time when none (or a very inconsiderable part) of the diseased Matter is resident in the Blood, it cannot promise the like benefit, as when done in the intervals of Continueds; since in them by opening the obstructed Channels, and giving the Blood a greater freedom of Circulation, it not only abates the accidental Ebullition, but also much moderates the original Cause of it, the impetuous Fermentation; whereas by reason of the absence of the Matter offending at such times, as it is only proper to be attempted in Intermittings (without indicated by a very Plethorick constitution of Body, or some more than ordinary Accident) it is best either wholly to omit it, or else to do it by the Hemerhoids, whose Internal branches coming immediately from the *Vena Porta* may perhaps carry off a small part of the Febrile and Heterogeneous Particles ere arrived at the defective Liver. For the use of Vomits in this Disease, experience hath given it a just preheminance; it being a remedy, which by that convulsive Vellication given to the Stomach, and adjacent Viscera, doth not only drain the Ventricle it self, the Liver and their Vessels both importing and exporting,

exporting; but also by freeing them from the depraved Matter, whose residence gave the whole Mass of Blood a consimilar taint, removes the Original cause of the Disease, and gives the overlax Viscera an opportunity of reducing themselves into their Primitive and Salubrious Forms. Where either an extream aversion in the Patient, some ill conformity of Body, latent Disease of the Breast, or rather Accident proves a Contraindicant to this Noble Remedy, there Cathartick Medicines, so not composed of such things as either move too violently, or impart a Firie and Acrid quality to the Blood, may be with advantage used, always observing that we administer them, either in the very beginning of the Ague, ere the Crude Matter hath disperst it self, or else that we stay (especially in Legitimate Tertians) till after the fourth Fit: it being probable that in those sharp Diseases the nimbleness of its Motion hath fitted the Peccant Matter for a more easie Expulsion; which as to its grosser parts is either done by Vomiting or Purg-  
ing. In the next place for the carrying off the more Lympid Matter, which is yet floating in the Vessels; Sudorificks succeed (Diureticks as they help toward the Precipitation of Saline Particles, being perhaps not so useful here, as in Quartans.) In the giving  
K 2 ing

ing of which we are to observe, that they always ought to follow more substantial Evacu-  
ations; that we choose to give them at such a  
time, when we perceive Nature to be inclin'd  
to that way of discharging it self; that in the  
time of their operation (especially in the  
first Eruption of the Sweat) we indifferent  
plentifully allow the use of such Liquors;  
as have in them but little of a Fermentative  
Quality; with such other requisites as you  
shall find more largely handled, where I treat  
of Evacuating Remedies in particular.

§. 19. For the use of alteratives, they  
being such as serve not only to prepare and  
fit the humours for Evacuation, to which end  
they are properly given before we use any  
Emetick, or Cathartick Remedy, but also  
in the whole Progress of the Disease, so to  
alter the acute Position of the Vellicating  
Particles, as to render their Motion less vi-  
olent; although they are not in Intermit-  
tings of any Species of the like use, that they  
are in Continueds; yet in either of them  
they may be almost in every State of the Dis-  
ease admitted, although perhaps with most  
advantage immediately after bleeding; when  
by their cooling and temperate Nature, whe-  
ther restraining quality or not (as the con-  
dition of the Patient requires) they by mix-  
ing



ing themselves with the Turgent supplies of the Blood, both allay its heat, and give some abatement to the Fermentation causing it; which such faint remedies at other times, and when the Blood is in a violent Motion do but in a very remiss degree. In the use of Medicines of this nature, we ought carefully to distinguish between such Feavers, as prosecute their Exit by Fermentation, and those that do it by Ebullition; it being demonstrable that Acid Spirits which speedily give a check to the one, rather incense the other. For which cause since such a mild Fermentation ( though still Morbifick ) as prepares the Matter for the Paroxysm, is although insensible in Action, out of it the use of such things at that time as act rather by giving the Diseased Matter a change of parts from their restraining Acidity, then by any Predominancy of first or second qualities, seem most convenient; whereas, should they be used in the Fit, it were but to force Nature to a retreat, whilst her Enemy kept the Field, and to allay the flame whose indeavours were to render what offended the Body transpirable by Sweat; which, when they fail to do, the interval is less pleasant, and the succeeding Fit the more violent.

§. 20. Besides the use of Medicines of this

Nature in Intermittings, for the choice of which the indications are not much different from what they are in Continueds ; we are here also more particularly to look after the preserving the tone of the Liver, to which, all our Medicines both External and Internal, ought to have respect, The not rightly separating the Bilious Particles whose Redundancy in all likelihood cause the Fit, being not so frequently from an Error in the Matter to be separated, as it is from some indisposition of the Viscera, proceeding either from an over-laxity of its Parenchyma, or some obstructions in its Vessels. Either of which defects ought with great caution to be distinguished, the one from the other, since the Cures requiring contrary Indications cannot otherwise be successfully performed ; If the substance of the Liver appear to be over-Lax, Restricting, and Corroborating things both Internally and Topically applied prove advantageous ; which in Obstructions of the said parts are with as much diligence to be avoided ; although in both cases gentle alteratives seasonably applied, prove always beneficial ; since by the nimbleness of their Motion, they may at the same time both open the Passages Obstructed in the Liver, and that done, by the Capillary Branches being discharged into its Parenchyma, impart  
to

to it such a strengthening quality, as gradually to reduce it to its former tone ; which done entring the Circulating Vessels together with the Bilious Particles, they there so restrain their irregular Motion, and allay their Acrimony, that in a short time they may render them fit for a more peaceable Circulation ; especially in such Agues, where the defective seperation proceeds from a disproportion of the parts to be seperated.

§. 21. For the use of Cordials, which in the ordinary way of Practice is to succeed Alteratives, or at least to joyn its forces with them, they rather respecting the Symptoms than the Feaver it self, I shall refer their use to be elsewhere treated of ; whilst I here only take a brief view on what reason the peripete, with some other Specificks are made use of in these Feavers. Though these Topicks are applyed to several parts of the Body, those about the Neck and Hand-wrists are most frequent, where it is presumed that by communicating a restraining, if not Narcotick quality to the Blood, they stop the Motion of the Febrile Matter, being conveyed to it through the coats of the Arteries, on the wings of those oleagenous and penetrative things they are composed of. For their vertues I shall deliver my opinion of them elsewhere, only here giving notice,

that I think it fitter to be attempted, whilst the Morbifick Matter is preparing its Forces, then when it hath acquired a sufficient strength to maintain the Conflict; as also that those topicks to be applyed to the Stomach (if emetick) be used with great Caution, least they over-much Debilitate the part, and by relaxing its Fibers render the mouth of the Stomach unfit to corrugate it self; If only alterative, that they are not composed of such things, as either by fixing the Matter in the Stomack, or precipitating it into the Bowels, may prove the causes of Distempers worse than the Ague it self, as *Cardialgiaes*, *Syncope*, violent Cholicks, and the like; As lastly, if these Topicks are composed of cooling and restringent things, that it seems much more rational to apply them to the Region of the Liver, where by altering the Lax temper of its Viscera, it may for the future render it better able to perform its Office, in seperating the Bilious Particles from the Blood. For such other Remedies as by their Specifick quality are often found prevalent in this Distemper, I shall hereafter handle them more at large, their vertue not being confin'd to this Species of Agues in particular. For what concerns the Dyet to be observed in Tertians, the matter offending being such as may be too much promoted by  
all

all sharp and Acrid things, as also what is of a Composition too Sulphureous and apt to heat, those are principally to be avoided, in other respects it is to be regulated according to those general Rules fit for to be observed in all Feaverish Distempers.

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## C H A P. VII.

*Of Quotidians both Continued, and Intermitting.*

## The Contents of the Chapter.

*The Definition of an Intermitting Quotidian, with such Propositions as are to be proved for the clearing it. §. 1. Their Cause from a Crude Matter vitiating the Chyle. §. 2. The Originat of the Phlegm, together with such Distempers, as the Body is obnoxious to, on its redundance. §. 3. The Generation and use of the Stercus Liquidum. §. 4. The Paroxysm from a Conjunction of these two juices in the Circulatory Vessels. §. 5. The use of the Pancreas. §. 6. What injuries the Body is subject to from the Phlegm Predominating alone. §. 7. Of such Accidents as it causes when without a Fever. §. 8. Whence the Jaundies, with other Distempers proceeding*

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proceeding from the ferment. §. 9. Why Quotidians seldom happen. §. 10. Why it begins with bruising rather than shaking, continues long, terminates not in Sweat, and returns every day. §. 11. Of some Accidents following Quotidians. §. 12. A continued Tertian defined. §. 13. Of such things as are most observable in the Therapeutick part. §. 14.

§. 1. **T**Hese Feavers by the Ancients held to be from a Putrefaction of the Phlegmatick part of the Humors, the seat of which, in such as had a perfect *atropisia*, was by them held to be in the Meseraick Veins. An Opinion to which for the reasons formerly mentioned not adhering, (having there proved the impossibility of any such Restagnation in a peculiar Focus, dissenting all of a former date) I shall add hereto the following definition.

*An Intermitting Quotidian is a Perturbation of the Heart caused by such impurities as are together with the Chyle brought into the Mass of Blood.*

For the proving the reality of such a Fermentative Matter accompanying the Chyle, the demonstrating what it is, and in what manner it operates, we are to take the three  
Following

Following Propositions into consideration.

1. Whence the Crude Matter, that hinders its due Assimilation, is imparted to the Chyle.
2. Whether it ought not to have something more active mixt with it to cause it to Ferment.
3. How Fermentation is begun from a combination of the said juices.

§. 2. In answer to the first of these, I conceive it not difficult to prove a far greater probability of such a Crude Matter as I have mentioned, vitiating the Chyle; and by rendering it unfit for Sanguification giving an offence to the Mass of Blood whilst passing under that Notion, then that after converted into Blood it should receive that disturbance from an Emanation of Putrid Vapors sent from a Matter corrupting in any particular part; or that the Morbifick taint should be Communicated to it from any previous Diathesis of the Blood, ill digestion the Aliment receives in the Stomach, or any meerly Phlegmatick Matter sent thither from any adjacent part. All which although I shall acknowledge fit to be reckoned amongst the remote and Antecedent Causes of this Disease; yet are we to look elsewhere for its conjunct, and

and more immediate Matter; which if we but reflect on what hath been formerly laid down as a general rule in all Intermitting Feavers, *viz.* That there is in them a Preternatural return into the Blood of something ejected as Excrementitious, *the Matter so ejected* will in this Species appear such as I shall demonstrate it to be in the following Section.

§. 3. That as a peculiar concomitant to the Chile (being most likely ordained by Nature as a Vehicle for the facilitating its passage in a farther progress) there is always in healthy Bodies sent with it from the Stomach much Aqueous and mild Matter, (such as hath a near resemblance with the salival moisture) which Circulating with it on its first reception into the Vessels serves as a cooling Medium to keep it from being over-boiled by that nimble heat it finds on its Conjunction with the Blood; which office having for its designed time performed, and in that Action lost by Transpiration its most tenuous parts, the remainder being now unfit for Circulation (as reduced into the substance we call Phlegm) ought to be discharged by the Mesenterick Arteries into the Guts; so both to disburthen the Blood of what is useless, as also to make way for its Renovating supplies,



supplies, both which Offices the necessities of Nature require to be done once in 24 hours; On the performance of which (as I shall elsewhere make more apparent) the reasons of the Diurnal Paroxisms depends. This task not orderly done, but that from some Obstructions in the Vessels the Mass of Blood is not duly freed from it, it communicates to the whole Body that dull and unactive temper, which is visible in those, whom we conclude to be over-burthen'd with gross and Phlegmatick Humors, being such as on any accident hapening, as a Procatarctick cause, are most subject to continual Quotidians, or from a super-abundance of the foremention'd Latex not rightly Transpiring to Cathartical Distempers; as also all such as depend on so unactive a Matter, as a Viscous and obstructing Phlegm; which however being it self but the passive part, and not composed of Particles active enough to begin the Work of Fermentation without an assistant, gives the Body no more violent disturbance, till united to its nimbler Ferment. Which as the Subject of my second Querie; I shall in the next place endeavour to prove.

§. 4. The slow and pituitous Matter we have now treated of although composed of Particles Hetreogeneous, and differing from the

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the natural Crasis of our Blood; yet not having (as the Bilious Matter) activity enough in it self to indeavour its own Segregation, it is always, when causing a Feaver either Intermittting or Continued (although acting out of its own Sphear) assisted by the Association of its proper Ferment; which the frequency of the Paroxysm declares to be something, that may on a Morbifick Motion be sooner apt to offend, then either the Bilious or Saline Matter. Neither of which (as recrements of the Blood it self) seem to need such constant supplies as what hath a dependency on the Chile, and such whose Office is to depurate and cleanse it from some contracted impurities. Which work being to be performed by Fermentation, I know nothing in the Body so likely an instrument for the doing it, as what is composed by a Combination of the Bilious and Pancreatick juices; those two producing a Substance which (when joyned with the serous Vehicle of the grosser Excrements) composes that Matter, which *Van Helmont* rightly calls the *Stercus Liquidum*, a part of which being always (as the thinner and more passible Body) drawn off together with the Chile, and carried with it into the Glandules of the Mesentery. In them (as Natures Work-house for that operation) it serves as a Ferment for the separation

ration of such impurities as it had contracted in its passage, which if not thus defecated (there being no separation made in the Body but what is performed by Fermentation) would be carried impure into the Receptaculum. Which defecation being a Work so absolutely necessary to the preservation of our health, obliges us to a further inquiry, after the manner of its performance.

§. 5. Having in the former Section mentioned the *Stercus Liquidum*, or Matter drawn together with the Chile from the Guts, as the most likely Instrument to be used in its future separation, I am now farther to make it appear; first, that there is such a Matter, whence it hath its Generation, and how it is disposed of, its Office being perform'd. Having already said something, as to the first of these, I shall endeavour its farther Confirmation by making it appear, that this Stercoraceous Matter, in the manner I have formerly mentioned, brought to the Glandules of the Mesentery, it there, besides the Concomitant Chile, meeting with a more smoth, and amicable juice brought thither by the Nerves (most likely both to supply it with Spirits, and Lubricate its passage) On the first encounter of two such contrary Substances the Contest is begun in such a Fermentation as

is equivalent to the activity of their Parts. In which Act the more impure part of the Chile, and such as was Laden either with a Viscous or impure Phlegm, which it often draws from the Bowels in an over-Lax Constitution of the Vessels, or (which is more Natural with the more dissimilar Parts of the *Stercus Liquidum*) being ejected, the now perfectly depurated Chile is carried to the *Receptaculum*, and what was cast off, as Excrementitious to its segregating Vessels, by some other branches of the same Veins, though by all Authors not reckon'd amongst the number of the *Lactææ*; they being (in my Opinion) mistaken by the different colour of the Matter they convey, one being the depurated Chile, and the other a Matter discoloured by the Excrements it transports; it being from hence, that Modern Writers deny any of these Veins to come to the Pancreas, whose Channel I shall endeavour to prove the fore-mentioned separating Vessel. The necessity of which, if there be any such separation of the Chile made in the Glandules, as all late Authors that Treat of them acknowledge there is) is so great, that without it, the impurities must be, either contained in themselves, whence continued, and inevitable Obstructions would succeed, or else return'd again into the Nutritional Mass, which

which would render the Body in a perpetual unhealthy State. For the avoiding both which inconveniencies (there being no Vessel yet discovered more likely to perform it) gives me the boldness of patronizing an Opinion that the *Pancreas* is the part which Nature ordained for that use; and that by its ductus these seperated impurities (being much alter'd from their pristine condition) are again imported into the Guts. Which Office not according to the Dictates of Nature perform'd, but the unseperated Ferment together with the impure Chile carried in to the Blood; that active Matter meeting in the Circulating Vessels with the viscous Phlegm, which in its proper Sphear it was ordained to seperate, by indeavouring its expulsion, it begins that slow, but almost constant Fermentation wee see in Quotidians. To free which Opinion from such Objections as I must expect it to meet with, it will be no unuseful digression (ere I proceed) more clearly to prove what I have here intimated of the use of the *Pancreas*.

§. 6. Having attributed thus much to this Glandule, and therein, both as to its use and subservient Vessels, varied from what most (especially Modern Authors) allow it: but few, since their first discoverer *Afellius*, holding

ding that any of the *Vena Laëæ* terminate there; some as our Learned Doctor *Wharton* being of an Opinion, that it receives the juice it carries from the Nerves: *Adenog. p. 8.* Others as *Franc. Silvius Prac. Med. Lib. 1. Pag. 893.* from the Nerves and Arteries joynly; from both which he conceives it to carry an Acid and Melancholy Matter; which Opinions of these Celebrated Authors, together with many more too tedious to be inserted, I shall leave to the judgment of others; confessing my self rather to incline to that maintained by *Veslingius, Riolanus*, and amongst the rest, our worthy Country-man *Dr. Highmore*, they all acknowledg, that it serves to carry off a foul Matter from the *Chile*. The words of the last quoted Author being these: *Nobiliorem itaq; proculdubio usum obtinuit, quam ut sit pulvinar, atq; adeo illud esse factum censemus quicquid in Chilo cænosum continetur ad se trahat, separret, puriusq; reddat, antequam hepar ingreditur: Disqui. Anatom. Pag. 46.* Which assertion of this experienced Author, though some may think to be grounded on the fore-mention'd mistake of *Asellius*; yet, omitting but a Transportation of the Chyliferous Matter to the Liver, to which (besides other Authors of Credit) that Learned Anatomist *Dr. Glisson* (one whose Authority in this kind

few

few men call in question) in *Anat. Hep. p.* hath proved, that none of those Veins, and consequently no part of that Matter they carry (whilst passing under the notion of *Chile*) do ever come. This mistake I say being but excused, as to the other uses, he attributes to the *Pancreas* it seems much more probable, then the Opinions of some later Writers; there being no other way how the Matter secern'd by the Glandules can be carried off, nor yet any Vessels besides capable of bringing so considerable a quantity of Matter to the *Ductus Wirsungii*, as by its proportion it may be supposed to carry off, the Pores of the Nerves being too-exile to be the common passages for so gross a Substance; the Arteries too small and too few to supply it with a sufficient quantity; neither is that small branch of Veins it receives from the *Ramus Splenicus* more likely to be the importing Vessel, besides its Exility, the contrary Motion of the Blood they carry prohibiting it. All which seriously considered; (although I shall not peremptorily maintain it against the ocular experience of any able and faithful Anatomist) makes me rather incline to believe that some Vessels of the *Lacteal* kind, but as I formerly hinted) by reason of the different color of the Liquor they contain, mistook most likely for

some Branches of the Meseraicks, or the *Vena Porta*, do notwithstanding carry into the Glandule those Phlegmatick, and Stercoraceous impurities, which the *Vena Lactææ* having together with the Chile drawn from the Guts, was seperated in the Glandules of the Mesentery, and thence (as Excrementitious) sent to the Channel of the *Pancreas*, by that for the lubricating the Bowels, and perhaps for the abating the Acrimony, of what on its first entrance it encounters the Bilious Matter) cast by that passage it hath in the *Duodenum* into the Guts. The likelihood of which Opinion, together with the Aptitude of these juices, on a defect of their Vessels, to cause the Fever, we at present Treat of, will be best discovered by taking a view, how either of these Excrementitious juices, it ought to eject, offend the Body when seperated from its companion.

§. 7. Having thus far made it appear, that together with the Chile, there are both Phlegmatick, and Stercoraceous impurities drawn from the Guts, which ought to be seperated from it in the Glandules of the Mesentery, and thence as to their excretory Vessel by some Select Branches of the *Vena Lactææ* carried to the *Pancreas*; by whose common Channel they are cast out into the Guts. It being very probable, that so feculent



culent a Matter, notwithstanding the impulse given it by a constant Fermentation, cannot but be very apt to Obstructions, and other casualities, that may much pervert its Natural course; as also render a Redundancy of the one, without the Association of the other often offensive. The Reasons of which (since serving for the Demonstration of what we at present treat of) it will not be improper farther to examin. In doing which, I shall begin with the Matter to be Fermented, which being that Viscous and Phlegmatick juice that hitherto accompanies the Chile, and being only seperable by the Fermentation it suffers in the Glandules of the Mesentery, if it fail of that, as either by a defect, or imbecillity of the Stercoraceous Ferment it often doth, it then Restagnates, either in the Glandules themselves, in the Transporting Vessels, or in the Substance of the *Pancreas*. In either of which places it proves the Author of those lasting and stubborn Obstructions we so often see in people of Sedentary lives, and very flegmatick Constitutions. The Matter of which stoppages, as if it indeavoured to shew in its narrower confines, what it could perform if more at liberty, doth often, when now too firmly rooted for an easie remove, by a Conjunction with its Natural Ferment, cause in the

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abdomen Cholick Distempers, of near as regular a return and long a duration, as the Paroxisms of an Intermitting Quotidian. An Argument, that although it proceeds from the same Degenerate Matter with an Ague, whilst so large a part of it Restagnates in the Inferior passages, it cannot give so great a disorder to the whole Mass of Blood on every indeavour of its natural Ferment to remove it: which according to the set Periods of time observed in Intermittings, and from the same Cause, if the Viscous Matter be in any measure penetrable it never fails (though weakly) to attempt. In which Action in stead of disturbing the whole Body, as it doth when Circulating in the Vessels, it now only troubles the Region containing it, which is ordinarily the *Epi-gastrum*, where these diurnal Cholicks are often felt, though the Sphear of their activity being but small, and the Matter disturbing more apt to rest, then to Motion, unless when it is forc'd to it by the assulting Ferment, and extent of its Tyranny having but narrow limits, the time it troubles the Body is seldom so long as the Paroxism of the Ague.

§. 8. As these are the Effects produced by this Viscous Matter when Restagnating in the  
the

the first passage, so when although not become so unapt for Motion to be detained there, notwithstanding from the defect of that separation it ought to receive in the Glandules; it is sent into the Mass of Blood, together with the Chyle, but without any quantity of its Ferment so considerable to give it there a disturbance, it having nothing to incite it into a Febrile Commotion, it imparts only such an indisposition to the Blood as are the frequent Effects of an undefacated and Superfluous Phlegm, giving such an alloy to the Vital Flame, as we see in Cachectical and other Chronick Distempers; all such as proceed from this unseparated Phlegm being commonly of a tedious Continuance, it being oftentimes too Viscous to be expell'd either by Sweat or Urine; and then putting the Body in danger of being afflicted with lasting Cephalick Distempers, universal weakness &c. or else if of a more Tenuous Nature sometimes indeavours its Expulsion by Sweat or Urine: Which unsuccessfully attempted, it is by a more irregular Motion carried into the Musculous parts, where (according as the Viscous or serous Matter predominates) it discovers itself in Spontaneous Lassitudes or sharp Rheumatismes, as also in so many Diseases incident to the *Genus Nervosum*, that there are few of that sort that own any other Original.

Original. All Diseases some Authors attribute to a superfluity of the Salival Latex, as Cathars, Coughs, some sort of Dropsies, with many other dangerous, and often Mortal Distempers, having hence their Original; either of which, had this Fermentative Matter when first transfer'd to the Blood, been attended with parts active enough to have begun there a Fermentation, could not have possibly happen'd, the Tenaceous Matter being in each Paroxysm too much dispers'd to lay the Foundation of another Disease.

§. 9. These being the most ordinary accidents hapning on the sole reception of the pituitous Recrement of the Chyle into the Vessels; we are next for the more absolute knowledg of the two several juices concern'd in Quotidians, to see what results on the redundancy of the Ferment it self, without any such object to spend its vigor on, as the foremention'd Phlegm. Which neither encountring in the Glandules its proper Sphear, nor in the Vessels, the Region of aguish Distempers, but that whilst the more crass part Restagnates in some inferior Receptacle, the more Active Ferment is carried into the Mass of Blood, without any thing to abate its Acrimony, it there proves the cause of many sharp Distempers, as in  
particular

particular of those sudden heats dispersing themselves in an instant over the Body and causing that ~~Phlegm~~ so often seen in the Scorbutick and otherwise obstructed Bodies; sometimes insinuating it self between the coats of the Intestines, or Membranes of the Mesentery, it produces Scorbutick Cholicks, or (by forcing open the Vessels) sharp Diarrheas or dangerous Disenteries. Besides all which perform'd in the lower Region of the Body, from the abhorrency the Blood hath to so sordid a Companion, it is frequently ejected in spreading Scabs, Ulcers, with such other Distempers, as are ordinarily Attributed to corrupted and foul Blood; but its most ordinary way of Expulsion (especially, if the Blood hath vigor enough to do it on its first Assault) is by that Defædation of the skin we call the Jaundies. A distemper much more frequently the product of this Matter, then the Legitimate Jaundies is the issue of the Bilious; having its Original from the perverted motion of the foresaid *Stercus Liquidum*, which most likely by some obstruction of those Vessels, by which it ought to be carried from the Glandules to the Pancreas, being stopt from its common Road, by mixing it self with the other and more absolute circles of the *Vena Lactea* (leaving its proper Office the seperation of the Phlegm

Phlegm from the Chyle, not perfectly per-  
form'd) it takes its way to the Chyliferous  
Receptacles, and accompanying it to the  
Mass of Blood, causes there that Indisposi-  
tion and faintness, we see ordinarily precede  
the Jaundies; those pains always accompa-  
nied of in the Stomack and Region of the  
*Pancreas*; one from being Vellicated with  
so vitious a Matter; the other from want-  
ing a Vehicle to carry off what it ought to  
eject. Which (although seldom causing there  
an absolute obstruction) doth often oppress  
it to a painful extension; it being in this  
Distemper that we see the Excrements com-  
monly white, and the Belly bound, from a  
defect of the Pancreatick juice, whilst the  
Urine in the mean time is tinged with a  
deep yellow from its over great abundance;  
whereas also, that which hath its Original  
from the Bladder of Gall hath always a Fe-  
ver either preceding or concomitant; this  
hath never any such attendant, though by  
communicating so foetid a Matter to the  
Heart it is never unaccompanied with that  
faintness, and other Symptoms, which are  
the usual attendants of this Disease.

§. 10. Having thus seen what the incon-  
veniences are that follow on the Residence  
of either of these juices in the Blood unac-  
companied

compained with its ordinary affociate; and from thence made it apparent, that it is more dangerous for one of them to be there alone then to have them both united, since then beginning there that Fermentation we call the Ague (which is but Natures endeavour of expelling the Morbifick Particles) it may possibly free the Body of all such Diseases as it would be otherwise on their irregular Motion incident to. Which work, when either of whom Predominates alone, she wants an agent fit to attempt. For which cause those Accidents that depend on the residence of one of them, without the Association of the other, are much more frequent, then that sort of Ague, which is the effect of their Combination; Phlegmatick Obstructions from the one, or a Jaundies from the other oftner afflicting us, then a Quotidian Ague of either Species. Which, being the result of an equal Reception of them into the Circulating Vessels, but rarely happens, and when it doth, becomes distinguishable from the other Species of Periodical Fevers by a due observance of these circumstances.

1. Its beginning with chilness and bruising, but little or no shaking.
2. Its exceeding other Agues in the time of its continuance.
3. Its

3. Its not Terminating in Sweats,
4. And in the Diurnal returns of the Fit.

The causes of either of which Accidents, I shall endeavour to Demonstrate in the following Sections.

§. II. For the first of these, it seems to proceed from such a dullness and Ineptitude of the Matter to Motion, that ere its compact Body can be so open'd to discover those few sulphureous Particles, to which it is the last Vehicle, the Vital Principles become so injured by a restraining coldness imparted to the Blood, together with a Soporiferous and unactive juice to the Nerves, that the whole Body (by reason of the difficulty of Volatizing so Tenaceous a Substance) seems rather to be petrified with a bruising Cold then tormented with a shaking Fit; on which Cause also depends the second thing considerable (the length of the Fits continuance) the Tenaceousness of the Phlegmatick Vehicle not suffering it self in a shorter time, then Eighteen hours, so to be dissipated to let the innate Sulphurs of the Blood (disturb'd in the Paroxysm) to set themselves at liberty; and consequently (which is our third Querie) being then too much weakned, to carry with them any considerable part of  
what



what formerly oppress them in plentiful Sweats (that never being to be expected, where on the first assault the Serum was not tenuous enough to cause shaking); which benefit the Body being deprived of, although not the sole Cause, it assists much, by continually adding a greater foulness to the daily supplies of the Chyle, to the Anticipating the time of the next Paroxysm; and (which is our fourth thing to be considered) is the diurnal return of the Fit. Which principle depending on the Saturation of the Blood, by the impure Chyle, that being a Matter the necessities of Nature require a more plentiful and constant supply of, then of what is the Cause either of Tertians or Quartans, the Paroxysm hath its returns accordingly the space of Six hours of the 24, that make up a natural Day, being enough to fill the Circulatory Vessels with a Matter of so impure and Viscous a composition that it cannot by the action of its Ferment be dissipated in less time, then the remaining Eighteen

§. 12. Having thus far proved the probability of this sort of Agues, being caused from an impurity of the Chyliferous supplies, which (being a Matter Naturally requiring to be defecated by its proper Ferment, as well

well as the Blood, I received it equally capable of doing) I shall now for the farther proof of the Nature of what renders it impure, take a brief view of such Accidents as commonly succeed it. All which being such as have their Original from a tenaceous and obstructing Phlegm, seem much for the confirmation of what I have formerly delivered, we really seeing a Quotidian, but as it is attended with Cathartical Distempers; so it is succeeded by what proceeds from a Matter more Condensed, as such, whose Tenuous parts exhausted in the Paroxysm (for want of a Vehicle to assist them in their passage) reſtagnating in the Grandules, do there lay the Foundation of such Schirrous Tumours, as by obstructing their passage, force those tender Aquaducts of Nature, that convey the Lymphic Matter, to forsake their proper Channels, and *disembough* themselves into the capacity of the Abdomen, which becomes from thence extended into an incurable Dropsie.

§. 13. The affinity between Intermittings, and Continueds of this Species, declaring the Matter causing them, to have so near the same Original, that upon an Examination, of the difference appears to be no more, then only in the manner of introducing it into the Mass of Blood; which since not performed

in these as it is in other Periodicall Fevers, may give some occasion to doubt, whether what we take for a Quotidian, be not some degenerate Species of Tertians. Which (although I acknowledg many of them to be) it will however not be difficult to prove that the Blood is also capable of receiving such a depravation from the Chile, as corresponds with the following definition of a continued Quotidian, which is as followeth,

*A continual Quotidian is such a depravation of the Blood, that issuing from the supplies of an Ichorous and Vitiated Chile, as not accompanied with a Ferment powerful enough to expel it in the Paroxysm, gives the Body a constant disturbance.*

For the proof of this Definition, we are to Consider, that as this Disease is not so easily contracted, as a Tertian, or a Quartan of the same nature, so it never happens but on some extraordinary Distemper of the Blood preceding it, as a Procatartick Cause; this being the Disease which we see attending consumptive People, especially toward the last Scenes of Life; it seldom appearing till after a Hectick hath so much Vitiated the Arterial juice (sent into the Stomach as an incitor

citor of its ferment) that Concoction becomes so depraved, and that the *Vene Lactee* instead of Laudable nourishment draws off only a Putrelaginous Icor for a supply to the Blood. By means of which ill nourishment, after the Body hath for some time laboured under a consuming *Atrophia*, as its last result, these diurnal Feavers appear; which as by reason of the feebleness, and paucity of the *Stercus Liquidum*, the impulse is not strong enough to expel the Peccant Matter in the Exacerbations of this, as it doth in the Paroxisms of Intermittings, the Blood is gave a Continued disturbance, but that scarce visible, till Nature, oppress'd with its quality, indeavours it in a Fit. Which for the reasons formerly alledged, where we Treated of Intermittings, comes every day, discovering it self in more, then ordinary Bruisings, faint Sweats, Coldness of the Extreame parts, Shortness of Breath, troublesome Coughing, and such other Symptoms, as we find in Consumptive People, when the Physicians tells them their Hectick Feaver is joyned with a Putrid. The cause of all which proceeds from the Stercoraceous and Ichorous Matter formerly mentioned, Circulating with the Blood, and putting it into such a disorder, that as it Transites the Lungs, the inspired Air not being able to refract it  
into

into Parts minute enough for Circulation, it restagnating there, by filling the Pores of its spongy Body, leaves not room for the adjacent parts to recede: so that for want of fresh supplies of Air, the Spirits grow fuliginous, and the Blood passing Crude and undefecated to the Heart, the strongest Conquassation it finds there, cannot render it so volatile to be fit for nourishment, or to become a proper Vehicle for the Spirits. Which by that means impeded in their Journey, lets the extream parts want their vivifying heat, and the whole Body in defect of laudable nourishment, decline to a perfect *Marasmus*.

§. 14. The Curative part both in Intermittings and Continueds of this Species agreeing in their principle Indications, I shall only here briefly give my Opinion how they vary, both amongst themselves, and from Periodicals of a different Species. In such as are continued where the Morbifick matter always Circulates with the Blood, the taking off a small quantity may be convenient; so the Body, (ere the Type of the Feaver was discovered) be not too much weakned, and that the operation be gradually perform'd; if the Lungs seem much oppress'd by the arm, if not from the Hemerhoids or the *Salvatella*,

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where

where the largeness of the Channel may not cause too plentiful a loss of Spirits. For the like Evacuation in Intermittings, the Indications not being the same, we cannot expect an equal success; the Paroxysm (being that time when the offending Matter Circulates with the Blood) being unfit by reason of the violent Motion the Spirits are then in; in the interval, (it being then not likely that way to diminish any of that Matter offending) it were needless if not hurtful. Vomits in Continued Quotidians seem too rough a Remedy to be attempted in that languishing State of the Body; notwithstanding if the strength of the Party be able to bear it, and there be no manifest Signs of the Lungs too much impaired, it may perhaps prove one of the most useful Remedies. All sorts of Cathartick Physick is here to be used with the same caution as in other Feavers (of which in its proper place) only observing here, that such things as Purge Slimy and Viscous Phlegm are best, but of most use when the Feaver hath been of some continuance, and the tenaceous Matter is accumulated about the Glandules; at which time absterfive Apozems (and such as something corroborate withal) are proper: whereas perhaps in the beginning, when so much Crude Matter was attracted with the Chyle by reason of the

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the over-much Laxity and openness of the mouths of the *Vena Laëea*, Corroboratives either given inwardly, or made use of as Topicks might have been more beneficial. From whence I conceive the benefit of applying Bags composed of such things as strengthen and confirm the Parts subservient to Concoction; and so often found beneficial when applied to the Belly and Stomach. Sudorificks in either Species of these Feavers, till such time as other Remedies have sufficiently tenuified the Matter offending, rather damage than benefit; Diureticks have the like Indications; neither of them to be used till the grosser part of the Humors is by other Evacuations carried off; otherwise (by depriving the Viscous Phlegm of its Lymphic Vehicle) they render the Disease more stubborn, then before; the Cure being here especially toward the State of the Disease, to be begun by such gentle appetitives as render it in a capacity of being removed; when also as in the beginning, corroborative, so now Topicks that are smartly appetitive might be of most use. Which (there being none that I know used as a Specifick) I shall refer every man to his own choice, which may be abundantly made in all Practical Authors. For other Feavers resembling these in their Diurnal Exacerbations, as al-

so such Catharral Feavers, as (although seeming to proceed from a super-abounding Phlegm) have most like a more Malignant Original, I shall leave them till such time, as I treat of Epidemick and Malignant Feavers.

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C H A P.

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## C H A P. VIII.

*Of Quartanes both Intermitting and Continued.*

## The Contents of the Chapter.

*The cause of all Quartanes from the defect of what is ordained for preservation of the Blood. §. 1. Some inquiries into the nature and use of the Spleen with such juices as it ought to seperate. §. 2. How the acid juice sent from the Stomach to the Spleen causes a Quartane. §. 3. What Bodies are most subject to this sort of Quartane, and what distempers it usually frees them from. §. 4. How Agues are caused from a defect of the Spleen it self. §. 5. The definition of a Quartane, with an enumeration of its most usual Symptomes. §. 6. Why it degenerates into a double or triple Quartane. §. 7. Why it sometimes frees the Body from some dangerous Disease. §. 8. Why they come chiefly in the Autumn. §. 9. Why the Paroxysm happens but every Fourth day. §. 10. Whence the length of Continuance, and difficult cure. §. 11. Of continued*

*Quartanes.* §. 12. *What Symptomes Discover the ferment deficient.* §. 13. *What argue either the Splæen it self, or matter to be fermented out of order.* §. 14. *The Methodical cure.* §. 15. *The use of Specificks and especially the Peruvian Bark.* §. 15.

§. 1. **A**Llthough this intricate Disease gives me some cause to doubt my success may be no greater in discovering its Original, then many abler undertakers, that have preceded me; yet, having some confidence in such Anatomical discoveries of the use of the parts, as the present Age hath been happy in, I shall venture on the delivering my Opinion, though different from such as have formerly treated of it. I taking its real cause to be rather from something brought into the Circulating Vessels for other uses then immediate nourishment, then from any such Putrefaction of melancholy humors, as it was formerly conceived to be. On which ground, as I have already made it appear, that what causes Tertians and Quotidians proceeds from a defect of such separations as ought to be made in the Liver and *Pancreas*; so I shall now likewise endeavour to Demonstrate all Quartanes to have their Original from a similar deficiency either of the Splæen,  
or

or the matter it is to seperate; since on any such defect the fixt Salts of the Blood ejected as Excrementitious, not being made volatile enough for a farther Circulation ( which seems to be what the Spleen is chiefly to performe ) the Blood from thence contracts that depraved quality, which fits it for this Disease. In the prosecution of which, for the clearer manifestation of what I shall here deliver, it will be necessary to make some brief reflections on the so much controverted use of that part.

§. 2. The various, and almost unreconcilable differences amongst all Authors (both Ancient and Modern) concerning the use of this Vessel, being too many to recite, I shall, without farther examining their Opinion, ( for as much as concerns the Disease I am now treating of ) deliver my own. In which I shall endeavour to prove it an instrument ordained for the separation of something ejected out of the Mass of Blood, as not of use in its further Circulation : which office, ( although not allowed any proper excretory Vessel ) I question not, but to render it capable of performing. This separation we have spoke of, being to be made by way of Fermentation, we are in the next place to make a further inquiry into the nature

of the ferment by which it is perform'd, and from whence the matter to be Fermented hath its Original. For the proof of the first, it is a truth generally acknowledged, that there always is in the Arteries ( especially the Trunk of the Aorta ) much serous matter, which when by frequent Circulations it hath contracted an acid and saline quality, as ocular Demonstrations inform us all liquid things will be apt to do, by being over-boyled, for the discharge of that degenerate matter, ( it being as requisite there should be some peculiar Vessel, as well as for the Segregating the Excrementious Choler ) I know none so naturally adapted as the Spleen, the structure if whose *Parenchyma*, whether of a feculent and limous matter, as most Ancient Anatomists held; a congeries of Glandules according to *Malpighius*; or Composed of small and Fibrous Channels as in the Opinion of Dr. *Betts*, it makes not so much to our purpose as it doth to know what sort of juices are brought thither; from whence they are sent, and by what Vessels they are thence conveyed; as also ( especially in causing the Disease we now treat of ) whether the defect of a due separation lies in that, or in the substance of the Spleen it self. For the juices brought to it, 'tis very probable that their journey is made  
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in the following manner; first that the Blood, issuing out of the left Ventricle of the heart, sends its most spirituous parts upwards by the ascending Trunk of the *Aorta*, whilst such as hath in its Circulation contracted so many impurities, as to require a separation of them before it can be further Nutrimental, by the descending Trunk of the same Arterie, takes its course to the inferior parts; which is no sooner begun, but that for its speedy depuration, whatever is become offensive is by its various Channels carried off, first by a branch of the Celiacal Artery, (as most burthensome) the ichorous and serous part is carried to the Stomach there to joyne (as an assistant to digestion) to that remainder of the formerly concocted aliment; which (as a leaven for promoting a new Fermentation) the last Concoction left sticking to the rugous Coats of the Stomach, where dilated by this Arterial juice, it becomes capable of being a Ferment to the Aliment last received. Which office performed, least continual supplies of the same nature, if not carried off by a suitable Evacuation, might disorder the Stomach, that which hath performed its task (and in that action perhaps contracted a greater acidity then it brought from the arteries) is carried either by the *Vas breve* (if such a Vessel there be, as some late Anatomists

tomists deny ) or which is most likely ) by the two Branches of the *Gastrica Minor*, that pass from the Stomach to the Spleen. For that any such acid juice is carried for the help of digestion from the Spleen to the Stomach; not only experience in making Ligatures on those Vessels, but also the Opinion of the most Authentick Authors in all Ages deny. The words of *Hypocrates* being *Lib. 4. de morbis. Splen aquam ad se trahit ex Ventriculo*; and *Aristotle. Lib. 3 de part animal, Cap. 7. Lien humiditates superfluas divertit, & attrahit e ventriculo.* To this Opinion consents *Sennertus, Carolus Piso, Junius Millins*, with most Authors of the latter Centuries; all of them averring that the Superfluity of Water made by excessive drinking comes this way. Which if granted, I know no reason we have to seek further for a passage for the acid matter from thence, since all the lymphid matter, that is naturally carried thither ought to be such: it being on some error, and such, as if continued, may in time both injure the Stomach and Spleen, when it is either augmented in quantity or depraved in quality; either of those mutations rendering it unfit for performing that Office it is designed to. Which is, that on its entering the *Parenchyma* of the Spleen, and finding there a feculent, and limous matter, brought thither by another

ther branch of the same Celiacal Artery, being such a recrement of the Arterial Blood, as was become unfit for Circulation, by being grown of too saline and fixt a consistence; the office of the Spleen being to volatilize those fixt salts of the Blood: on the first encounter its nimble acidity so penetrates it, as it is speedily render'd volatile, and producing such an alteration, as spirit of vitriol works on Conserves of Roses, so advances its Spirituous, and volatilizes its fixt parts, that the most minute Particles of it are now not only become fit for a farther Circulation, but such as the Blood cannot Circulate successfully without the Rubicundity of Colour, consistence of parts, and activity of Spirits, being the ordinary results of it, when the Fermentation is perform'd according to nature; Whence proceeds the cause of that soundness of Body and clarity of Spirits, we see in such, in whom, ( although of what we call a Melancholy Constitution ) this Office of the Spleen is exactly executed, there being then no such feculent matter left as either to cause an oppression in its *Parenchyma*, or to need any excretory Vessel to carry it off. The want of which hath made the discovery of the use of this *Viscera* so difficult, not allowing it any matter to separate, because when done, they knew not how

how to dispose of it. Which ( admitting the truth of what is here delivered ) is not at all needfull, since both in seperating what was redundant, depurating what was impure, and Communicating an Alacrity to the whole Body, as the Spleen receives no other juices then the acid from the Stomach, the limous from the Arteries, and an amicable allay from the Nerves: so the work being done, it requiers no other Vessels to export what hath been there elaborated, then the recurrent Branch of the same Nerve to conveigh the chearful and rarified Spirits to all the Organs of the Animal faculty, the Veines to carry on the Blood in a continual Circulation, and the descending Trunk of the same Artery to conveigh its Saline and precipitated impurities to the Urinary passage. The possibillity of *doing* which ( as the chiefest objection to be made ) against what I have here delivered ) I have both Authority and Reason to support; Besides those Opinions of the cause of such larg quantities of Urine made in plentiful Drinking, ( which I have formerly mention'd ) we have the opinion of almost every Body to maintain it, *Senert. Institut. Lib. 1. Chap. 9.* says, *per urinam quidem ut aquosa alienae appellantur. satis parata via est per Arterias quas lien numerosas habet*; The experienced



perienced *Bartholinus*; in *Anat. reformat.* pag. 109. confirming the same in these words, *pars excrementitia, quæ a liene seperari non potest, expurgatur (si tenuis et aquea) per Arterias, non solum ad intestina, verum etiam ad renes per Emulgentes, hinc in affectibus splenis Urinæ sæpe nigra.* Which black Urine's an accident often hapning in Splenetick Distempers, doth not only confirm me in the Opinion that the Spleen discharges its superfluous *Serum* this way, but that also the most Acid part of it ( which seems likewise to be the Opinion of the fore-cited *Bartholinus*, pag. 122. is carried, ( though by Vessels not yet fully discovered ) to the *Capsule atrabiliarie*, or *Succenturata renum*, and from thence poured into the Emulgent Vessels to serve instead of a *Coagulum* for the farther seperation of the *Serum*. But this Opinion rather mention'd then maintained, being rejected, whilst the Foremention'd way of conveighing the *Serum* from the Spleen to the Reines is admitted, I know no reason for seeking farther for any pecculier Segregating Vessel; all such Offices as naturally belong to the Spleen, in the manner formerly delivered, being to be perform'd without it; as also those Diseases, to which the Body is incident on its defect ( especially every Species of what we at present treat of ) requiring

quiring no other cause then the irregular motion or Preternatural obstruction of some part, or other of it. Which will more plainly appeare by our taking a more exact view of the nature of those Liquors imported; examining whether the matter offending be brought so by them, or render'd defective on some error in the Spleen it self. Either of which makes such a variation of the Disease, as in all probabillity requires a different care.

§. 3. Having said thus much both of the use of the Spleen, and the matter it ought to sepearate, we are in the next place to consider, what it is, that depraves either of the foremention'd juices in such manner, as to lay the Foundation of a Quartane Ague. In doing which, beginning with the Ferment or Acid juice it receives from the Stomach, as that from the Celiacal Artery, we find, that either not duly discharg'd out of the Mass of Blood, whence a Saline and Austere depravation of that Vital Liqueur insues; or else being so discharg'd it hath its nature so perverted by some thing imparted to it in the Stomach, that when convey'd thence to the Spleen it is not in a capacity of performing its expected Office. For which cause the seculent Matter not finding in its proper Work-house,

Work-house, the Spleen, that Elaboration nature expected, is sent impure into the Branches of the *Vena porta* and Consequently carried so into the Mass of Blood, where encountring its Fermenting juice, as a matter Formerly defective in its separation; it there begining that work it ought to have perform'd in the Spleen, puts the agitated Blood into a Preternatural and Febrile motion; which if the Saline feces of the Blood be too copious to be dissipated in the Paroxysm, proves continued, if not Intermittent; the last most commonly hapning by reason of the slow supplies the Blood requires from a substance of this Nature; the Quartanes caused by this way being Distinguishable from others, from the Bodies being not before the assault of the Disease afflicted with any such Heaviness or Melancholy indisposition as ordinarily precedes those of the other sort; these being also caused rather by some error in the Six Nonnatural things, or some preceeding sharp Disease depraving the Acid Ferment, then the other; as being often also preceded by frequent Cardialgiaes, with such other Distempers as argue an extrem sharpness of the Blood, from whence the succeeding Quartane often frees the Body.

§. 4. As a Quartane may be thus caused from a Preternatural retention of the Ferment; an accident which from external errors the most Florid Bodies may be subject to; so the second sort, which proceeds from a defect of the Matter to be fermented is most incident to such as are of a Heavy and Melancholy constitution. The Blood of such Persons, as it is most impergnated with those Preservative Salts, that serve as a restrigent to keep the Tone of the Circulating Mass from being over-Lax (the reason why Melancholy people whilst this juice continues within its Natural Limits, are for the most part of sounder judgments, and a more confirm'd health than other constitutions) although (by reason of the more than ordinary aptitude of a matter so unfit for motion, to be detained within the Circulating Vessels) they are also more obnoxious to those Distempers proceeding from a feculent and Melancholy juice (amongst which a Quartane Ague hath been always accounted for one) than those of other Complexions; the Symptoms being also in this Species more troublesome, than in the other, by reason of the sharp Ferment transiting the Spleen without encountering any Fermentative matter, on which to spend its force. In whose defect it not only begins that Fermentation we call the

the Ague with the more violence, but also by vellicating its Fibres causes Tortions and Paines in the Spleen it self, and by being Communicated to the Nerves, either force them into convulsive Motions, or much deprave the Animal faculty. All which the irregular Motion of the Acid juice, caused by a retention of the Saline, doth often do without an Ague. Which happens either from the tenaceous quality of the one, or the speedy Motion of the other; spending so much of the Ferment on causing the forecited Distempers, that it wants power to indeavour the depuration of the Blood by an Ague, which when once acquiring strength enough to incite, it commonly proves a Cure to the foregoing Distempers; it being this kind of Quartane that according to *Aph. 95. Sect. 5.* frees the Body from Melancholy, Epileptical, and sometimes Maniacal disorders.

§. 5. Besides the two foremention'd Species of Quartanes, one of which proceeds from the Obstruction, or Depravation of the Ferment, and on any Procatactick cause may assaile the Floridst constitutions, the other from a Feculent juice, to whose enormities Melancholy Compexions are most obnoxious: there is also a third sort, which having its Original from an ill conformation

of the Spleen, those that are most subject to it seem to be Bodies of a kind of mixt Composition between those two, we have formerly mention'd; being such that although by nature indued with a Sanguin and chearful Complexion, have notwithstanding from some disproportion in the Spleen it self, and such a Conformation of its parts, as not being capable of distributing the juices brought to it into their proper Channels, conveighes it into such as Transport it to places unfit for its reception. From whence Bodies of this composition (notwithstanding their advantages of Complexion) are as subject to all Melancholy Diseases (and amongst them this we at present treat of) as those whose cloudy Constitutions argue them overwhelm'd, with the burthen of natural Melancholy; this ill conformation of the Spleen being then a disorder of Body frequently met with, it concerns us to look so far into it, as to be able to distinguish it, both by its signes and causes from the other kinds of Quartanes; For the first of which, it is best discover'd by such a frequent depravation of the fancy, as we see in Melancholy people, and in these (since adventitious) something more troublesome then where it is natural, it being also frequently attended with extension and paines of the Spleen, and such other

other accidents as we refer either to Windi-  
ness or inflammations of the part. The causes of  
all which are most commonly, either from its  
Preternatural conformation, some slowly con-  
tracted *Schirrus*, or, ( which perhaps is  
the most frequent ) from such a laxity of its  
*Parenchyma* that it cannot keep the Vessels  
within their proper Limits, by reason of  
which although both the forementioned jui-  
ces are without any interruption brought to  
the Spleen it self wanting abillity to make  
a due seperation of them, they being carried  
impure into the Mass of Blood, there begin-  
ing that Fermentation, they should have per-  
form'd in their proper segregating Vessel,  
cause the Ague, and that commonly of a lon-  
ger continuance, and more difficult cure,  
then either of the formerly mention'd kinds;  
it being this sort to which Splenetick people  
are so frequently incident, and much oftner  
would, were they not freed from it by those  
easier conflicts we call Scorbutick Fermenta-  
tions. An accident, by which nature indea-  
voring to Purifie the Blood ere so much Sa-  
turated with Saline Particles to require a  
more violent way of expulsion, doth often  
eradicate the matter of Agues whilst in the  
*Embryo*, which ( if in this state of Body )  
suffer'd to come to a greater height, proves  
always of long continuance, and for the most

~~part~~ terminates, in an incurable *Shirrus*, or dangerous Dropfies.

§. 6. Having thus far cleared the Three-fold dvision of Quartanes ; all of which (although they require such various ways of Cure as may have a respect to the quality of the matter offending ) I conceive capable of being Comprehended in the following Definition.

*An Intermitting Quartane is a Perturbation of the Heart from a Preternatural Fermentation of the Blood, caused, either by a defect of the Spleen it self, or of the matter it ought to se-  
perate,*

To confirm the truth of this definition, we are to take a view of some of the most usual Symptoms attending this Disease, since a discovery of their Causes according to the present received Opinion of the use of the Parts will much confirm the *Hypothesis* I here endeavour to maintain, the Principle of which are,

1. Why it Degenerates into a double or triple Quartan.
2. Why it often frees the Body from some other dangerous Distempere.



3. On what cause it most frequently affails in the *Autumn*.
4. Whence the Exacerbations are every fourth day.
5. Whence its Continuance and difficulty of Cure.

§. 7. For the first of these, we having already proved the impossibility of its proceeding from such a Putrefaction as formerly supposed; I rather take it to be from the Depravation the Blood hath received by a continuance of the Disease; by which means having now more Heterogeneous Parts of this Nature, then it is able to deposit, it suffers them to contaminat the whole Mass; the Phlegmatick Recrement of the Chyle, and the Bilious of the Liver, being now as well perverted, as that of the Spleen, either of which (according as the one or other predominates) stirs up Nature to endeavour its expulsion in a Fit, either every day, whence what we call a Triple Quartane, which rarely happens, and then after a great imbecillity of the Stomach preceding; or every other day, which is much commoner, ordinarily hapning when the approaching Summer hath (in that depraved condition of the Blood) something promoted the Bilious Particles; it being in this State of

the Disease, that there is often a danger of the Intermittings turning to a Continued Fever; the Preturbation of the Blood being now Universal, although the Saline Predominates, which in all Varieties, by joyning the Auxiliarie Forces to the common Enemy, makes the Fourth Fit the most violent.

§. 8. Whereas it is also frequently observed, that the Quartane many times frees the Body from some other dangerous Distemper, as Madnes, deep Melancholy, Obstructions of the Spleen, approaching Dropsies and the like; in all probability the Cause of it proceeds from the Dissipation of the Matter, causing those Diseases by the Violence of the Paroxism, which is performed with more or less difficulty, according to the Matter causing the Ague. Such as have their Original from the Lympid Ferment, (although more sharp for the time) are notwithstanding more easily removed, then those proceeding from a more Feculent and Obstructive Substance, such as the Matter to be Fermented is: Although the causes of that also are with a far greater facility carried off (and consequently the Diseases depending on them sooner Cured) then in that, which is caused from a defect of the Spleen it self, since in that the Blood being depraved by a Natural defect of the Vessel which ought to depurate

depurate it, and not from any Obstruction or other defect contracted in its Circulating Channels; although the Ague may be much longer continued, it is never like to remove, but rather increase the Original Distemper.

§. 9. That this Disease most commonly assails in the declining time of the year, I take the cause to be, as it proceeds from such a *Diatheſis* of the Blood, as is acquired by over-much coction. Which (if not the relict of some acute Disease, on which account it might happen as well at any other season) we may rationally Attribute to the Intemperance of the preceding Summer, that having Evaporated the Sulphureous part of the Blood, on their Evolution lets the Saline so far Predominate, that the depurating Vessel, not able wholly to discharge it, instead of supplying the Circulatory Mass with those preservative and volatized salts, whose office it is to prepare it, sends them in so fix'd, that they rather retard then promote its Motion; whilst by sending to the Spleen what is not capable of depuration, it renders what is sent thence to the Blood unfit for its Preservation. In which Morbifick temper it notwithstanding for some time Circulates without giving it a greater disorder then of being too Acrid and Saline, and such as if

not ejected by Pustules, Evacuations by the Hemorrhoids, or the like Excretions in the Summer, toward Autumn (on any accidental Prohibition of its effluvia growing turgent) according to the gradual process of its slowly Saturating the Blood, it gives Nature the disturbance of a Paroxysm.

§. 10. For the Fits assailing in such a distant period of time, it is to be refer'd to a Continued Depravation of that supply the Mass of Blood is on every Circulation to receive from the Spleen; it being by that, either wholly deprived of its Corroborating Salts; whence the Ferment looses much of its Acidity, or else they are sent in undecayed, so making the Matter to be Fermented too fixt for expulsion. From either of which Causes Nature is incited to a Fit, in such a distant period of time, as she ought to have discharged the Blood of these Saline impurities, they being in all probability such, after they have performed their preservative Office for the space of 72. hours, which is the ordinary time between the Paroxysms; being much longer, then in other Intermittings, by reason of the great disparity which the Fermentative Matter hath to the Blood; it not proceeding from a defect of what was ordained for nourishment, as a Quotidian, nor to accelerate the Motion  
of

of the Blood, as the matter of a Tertian; but rather from such Particles, as were ordained to make it more consistent, and serve as a Frenum to its inordinate Motion. For which reason there being no such necessity either of its frequent supplies, or sudden discharge, as there is of either it continuing its Office in the Blood without any necessity of having the old carried off, or a supply of new, in less then the formerly mentioned space. Which if not then perform'd as it grows, in Bodies without an Ague, Excrementitious, and requires some preternatural Ejection; so in such, as Nature indeavours it that way, the Paroxysm always observes the same Motion. Whose length will not appear strange if we consider (besides the small necessity of a supply of this Nature in comparison with the other) how unapt such Particles, as it is composed of, are to Motion; Saline Bodies although burning violently when kindled, not being so easily accensibile, as more Sulphureous, that sooner blaze themselves into Ashes; these having such a remittancie to that nimble Motion, as common Salts have when thrown into culinary fire to be inflamed.

§. II. As to the last of these Queries, their length of continuance and difficulty of Cure,

Cure, the first proceeds from reason near the same with what causes the length of the Intermission; namely, the unaptness of the Pectant Matter to be made fluid enough for expulsion; for the last it is to be doubted, the greatest Obstacle hath been from the wrong stating the Cause, that being no farther looked on, then as some Obstruction about the Spleen or Mesenterie, where a gross Blood was accumulated, till acquiring a Putrefaction, and accordingly (what concern'd the Symptomes only excepted) were their Medicines ordered for its Cure; proceeding in all Quartanes in one method. Which, how irregular (if the causes have that variety I have here laid down) I shall refer to the Censure of any competent judge; as also to consider, whether such an informing of our selves of the true Cause, as the attending Symptoms would easily direct us to make, may not be also absolutely necessary for directing us in the Cure. Of which, for as much as concerns this Species of Agues in particular, I shall say something in the following Sections.

§. 12. Having thus delivered my Opinion as to the Signes, Causes, and Symptoms of Intermitting Quartanes; I shall in the next place take a brief view of Continueds  
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of the same Species. Which being a Disease seldom happening, but when an Autumnal Quartane hath preceded, it thence appears to be such a Depravation of the Blood, as either an over/great Exaltation of its fixt Salts, or a continual defect of the Fermentation proper to the Spleen produces. From either of which causes there are bred such stubborn Obstructions in the Circulating Vessels, that both of those juices subservient to that Office, are without any separation detained in the Blood; which besides many other Distempers incident to Melancholy and Splenetick people, doth at length so over-saturate it both with the Ferment and Matter to be Fermented, that being continually Circulated, and not Periodically sent in for its supply, it by a constant Fermentation gives such a disorder to the whole Mass, which although we may be sensible of from slow Exacerbations that denominate it, it is in so remiss a manner that the sullen flame commonly consumes all the Vital Fuel before we behold many of them; especially, when it happens in a Body Emaciated before with an Intermitting, which (when ever succeeding) it most commonly makes good that of *Hypocrates Aph. Sect.*

§. 13. Before we are in a capacity of proposing

posing any rational Method for the Cure of this Disease, it is not amiss to render our selves able to discover which Species thereof we undertake. For the performance of which we shall begin with the Ferment, or Liquor sent from the Stomach to the Spleen, in the manner already declared; in whose Predominancy before arrived to that height to cause an Ague, we find the Saline and Ichorous part of it apt to extravasate in sharp and itching Pustules, if sent to the extream parts, if into the Substance of the Muscles a dull and contractive pain; if to the tendons, or *Periostium*, in the one they cause violent gratings, and sharp Rheumatismes; in the other, a deficiency of Motion. Hence also the Acrid and Corosive Matter, which impedes their Cure, is sent to Ulcers, or any part of the Body accidentally infirm. In all which time, from a defect of the detriev'd juice the leven (like Ferment, in the Stomach) not sufficiently dilated to Diffuse it self through all parts of the received Aliment is carried off, without a due Fermentation to the parts serving for its farther preparation; whence upon its distribution, the former Obstructions are augmented. But if the defect be in the Stomach it self, and that some stoppage in the Vessels conveighing to the Spleen, detain the Arterial juice overlong,



long, it now having dilated all that the preceding Concoction had left, as a remaining Ferment, and by that action acquired a Morbifick Acidity, it not finding a passage, and by fresh supplies increasing its Vigor, it causes whilst remaining there, sharp *Cardialgias*, corrosive frettings in the Stomach sower eructations, and frequent Inclinations to a canine Appetite. All which Symptoms, when the proper Ferment of the Stomach is wholly depraved, are succeeded by a vicious and disorderly Appetite, from whence that branch of the Nerves ordained for the discovering the present Condition of the Stomach to the senses of the Animal Faculty; and by that means incite an Appetite to what reason shall think fit, both for satisfaction and nourishment, being now (instead of those effluvia impregnated with its natural Ferment) by which an Appetite to wholesome food was stir'd up) possess only with such as had their Original from a depraved and Melancholy Matter, according to the nature of what it sucks from them it defiles those ascending Effluvia. Whence proceeds that depraved Appetite and preposterous longings for such things as are unfit for Food; which we often see in Cachectical Girls, Women with child, and other much obstructed persons, in which last, as  
it

it is a sign of a vitious condition of the Acid Ferment, so is it as well a fore-runner of a Quartane proceeding from thence, as any of those we have formerly mentioned.

§. 14. There being such Accidents as on their incommodeing the Body, discover a Preternatural Redundancy of the Acid Ferment, and consequently the Body most subject to that sort of Quartane, that hath its Original from thence; I shall now take the like view of such as proceed from the Matter to be Fermented; which having in part discovered in the Section of this Chapter, I shall here only note, that it may be farther made out by such Accidents, as the Acid Matter must of necessity cause, when in the *Parenchyma* of the Spleen, it meets not these Feculencies to obtund it, and these are most commonly some such disaffections of the Nerves, and Nervous juice, as appear in Convulsive motions, or at least, such (as I have else-where noted) do in either sex something emulate Histerical, or Hypochondriacal Fits; This being the Distemper we find in many (Women especially) who whilst actually Melancholy from a retention of the Saline Matter in the Vessels, are notwithstanding troubled with such fits from  
the

the over-much liberty of the Acid Ferment: All which, according to the fore-cited Aphorism are abated, if not removed by the assault of a *Quartane*. On a due observation of which we may without much difficulty distinguish between *Quartans* proceeding from either of the two first Causes, as from the last by the constant disorder about the Region of the Spleen, together with observing, where the party hath been formerly subject to such inconveniencies as are the ordinary Effects of an ill composed and diseased Spleen.

§. 15. Having thus indeavoured to discover its varieties, I shall now speak something (at least as far forth as the indications differ from other Agues) of the Cures of this difficult distemper, as also what variety corresponding to its several causes, is to be observed in its prosecution. All which being (according to this present *Hypothesis* rightly considered) I doubt not but that (not only in the beginning, but also in any other State) its Cure may be by a Rational and Methodical way performed. In the two first Species, *Viz.* Those that proceed from the Errours of the Ferment, or Matter to be Fermented (with a respect had to the diversity of the Matter) the Cure of both consists in  
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the use of convenient Deopulatives, which may both open the obstructed Vessels, and free the Stomach of what over-burthens it; which work (after giving the sanguinary Vessels a vent by Phlebotomy, if no contraindication appear) will be best done by unloading the Stomach with a gentle Vomit, the Convulsive Motions that Operation puts the adjacent Parts into, and only discharging what was Peccant in it self, but also powerfully opening such neighbouring parts, as were obstructed. In some of which it is very probable that stoppage which was the Antecedent Cause of the Disease had its residence; it being on this account that we so often find good success on the use of Emetticks, although the Matter Evacuated be for its quantity inconsiderable. These universal remedies having been made use of, we are next to descend to such as may have a more particular respect to the Matter offending, whether of Acid and Tenuous Parts, or of a more feculent and consistent substance, using in each sort (besides such things as by giving a consistence to what is too thin, or dilating what is too gross and Limous, seem to have a respect to each particular Species) such opening and absterfive Apozems, as by a precipitating and diuretick quality (a way more likely to pass so Saline a Matter by,

then

then by Sweats) may carry off whatever caused the Original Obstructions. Together with which inward Remedies it is also necessary to endeavour the Extirpation of these fixt and lixivial Salts by all external Remedies, as such which force the Ichorous part of the Blood to transport it to the extream Parts in Puriginous Pustules, Ulcers; or Evacuate it by the flowing of Issues, especially on the Region of the Spleen. But if the Error be discover'd to be principally in the Stomach, after Vomitting digestive and corroborating Medicines may be requisite; hence bags of bitter ingredients oft prove successful; but above all (if the defect proceeds from the absence of the Ferment (by which means the Limous Matter is detained too long in the Spleen) such things as assist the defective Fermentation amongst which chaliberate; Medicines rightly used are *Instar omnium*. Where the Spleen it self is disaffected, and the Disease proceeding from thence, a consideration is to be had, whether it be from any of the forementioned causes, as ill Conformation, a Tumor, or the over-much laxity of its *Parenchyma*. In either of which Cases (after our sedulous inquirie hath discovered, from which of them it proceeds) the Cure ought to be prosecuted accordingly. In performing which we are to beware

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(especially in the last of them) that whilst by corroboratives we endeavour to reduce the Laxity of the Spleen ; we do not by the use of Restrictives so confirm the Peccant Matter in its Viscera, as to make it the Subject of Stubborn Obstructions.

§. 16. Besides these ways of Cure which from a diligent inquiry into its Cause, and the discovering the Nature of the Disease, prosecutes it in a Rational and Methodical way ; Experience hath also found out many Remedies ; which (although the manner of their Operation is wholly unknown to us) do very often produce strange and unexpected Effects in its Cure. Whether these Medicines perform it by advancing, or depressing the Power of any natural Ferment, or as it supplies the defects of the Blood by communicating something to it of a nature Consimilar to its own preservative Salts : by one of which means I take most Specificks (the manner of whose Operation our Ignorance reckons amongst the number of occult qualities) to perform what they do ; there being some of them, as the powder of Sulphur, and also the Jesuits Powder, that do often cure the Ague without any visible Evacuation ; the last of which being the most celebrated of any, that is yet in ordinary

nary use, as seldom failing (at the least to stop) if not wholly remove the Disease. The cause of which is of so difficult a discovery, that it puzzles all Authors, what to impute it to. That it hath no Stupefactive quality in it, is apparent from that it affects not the *Genus Nervosum*: neither doth it fix or precipitate the Febrile Matter; since if only so, the result would be no more, then allaying the fury of the Paroxysm; neither doth it send into the Mass of Blood any thing that supplys the place of the Ferment that is defective, which if it did, since those Ferments have a difference agreeable to the Species of the Ague, though it cured those of one sort, it would fail in others: the contrary of which experience Evincing, I know nothing, we can impute the successfullness of it to, more probable then its Corroborating the Lax and Diseased Compages of the Blood, by supplying it with something equivalent to what either the Bilious Particles depurated in the Liver, or the Saline Exalted and Volatized in the Spleen do naturally send into the Circulating Mass, either to Exalt it, or preserve it. Which useful work (by reason of some insufficiency in themselves) either of these Substances not orderly performing; this Powder (and perhaps many other things yet undiscovered)

from the similitude of Form which its Minute parts hath to either of them, mixing with the Blood, effects what the other (before grown Morbifick) used to perform, whilst the vertue of the received Dose remains, proving such a *Vinculum* to the irregular and Febrile Particles causing the *Paroxysm*, that by the strength of their Auxiliary Forces they are prohibited in the beginning of the Combat from making a further progress. By which means the Blood Circulating peaceably for the space of two or three Intermissions, whilst the Powder continues its Energy, if its Work-houses are not very much depraved, nature in that time recovers so much Power as to restore them to their former Abilities; so that, now reduced to obedience their irregularities give the Body no further disturbance; whereas, if the Ague becaused by the defect of the Segregating Vessel, the Powder either not prevails at all, more then only to abating the Fit, or at the most but the rendring all quiet for such a time, as its own Vertue remains. Which cannot be for the space of many Intermissions ere the Fit returns with a violence equal to the former, (or which is more) the Humours become more Aduſt for want of being dissipated in so many Paroxysms, lay the Foundation of some dangerous Distemper.



stemper. Wherefore in such as are full of Obstructions from the defect of this Viscera, ere they are removed, I think it safest for them to omit both the use of this and all other Specificks, that by such doubtful ways of Operation give a check to the Ague; It being also to be noted, that as before the use of such Medicines the Body is to be cleansed by some proper Evacuation; so after it hath performed what it was given for, the like course is also to be observed, since, as on the first omission, Obstructions might have impeded the virtue of the Medicine; so now such dregs as remain in the Circulatory Vessels may either indanger a Relapse, or Stigmatize the Blood with an over-saline and Scorbutick Taint. For such other Remedies which success hath made famous, and amongst the rest that which *Riverius* so Magnifies against this Disease in his Observations; I have not found them used with the like success. In my Chapter where I treat of such Remedies as are of general use in Feavers, I shall give the description of this so celebrated *Febrifuga*, divested of all its Chymical Enigmaes, which when so beheld there is none that ought to be term'd a Physitian, but may be able to judge, in some measure whether it deserves what is Attributed to it, or not.

## C H A P. IX.

*Of Continent Feavers in Specie.**The Contents of the Chapter.*

*The division of Continent Feavers according to the Ancients. §. 1. Continents only suiting with the ordinary definition of Feavers. §. 2. Why they shake not on the first assault. §. 3. Whence the continuance of the Feaver. §. 4. Why I rather fix the seat of Ephemeraes in the Serum, then in the Spirits. §. 5. The three divisions of the Serum, together with the definition of an Ephemera. §. 6. The difference betwixt an Ephemera, and Imputrid Synochus. §. 7. The ordinary Causes of both these sorts. §. 8. The signs by which an Ephemera is distinguished from a Putrid Synochus, with the definition of a Putrid Synochus. §. 9. A farther discovery of the difference between Putrids, and Imputrids. §. 10. How a Caulus is distinguished from other Feavers. §. 11. Many mistakes in the Nature of Feavers from the placing their Causes in the four Humours: with the definition of a Burning Feaver. §. 12. How a Hætick is caused*

sed by a preceding Ephemera. §. 13. How they come to succeed a Causus or Putrid Synochus. §. 14. Some necessary considerations concerning the Therapeutick part of these Feavers. §. 15.

§. 1. **H**AVING thus fully handled the several varieties of Periodical Feavers, I shall now deliver my Opinion in what concerns each particular Species of such, as are by Authors term'd Continents, being those which as they begin without any cold or bruising, so in continuance of the Distemper they are not subject to any such exacerbations, as are visible in Periodicals; having only a gradual increase till they come to their *Acme*; which happens sooner, or later, according to the qualifications of the Matter producing them from: the Observations of which, the Ancients formerly distinguish'd them in three sorts.

1. In *Homotonos*, or *Acmastick*, continuing for the whole Course of the Feaver in the same vigor.

2. *Paracmastick*, or decreasing from the time of the first assault, to the conclusion, the Matter being Dissipated faster then it increased.

2. *Epachmastick*, or continually increasing, the Putrefaction being in this larger then the Dissipation.

From

From hence they conclude, that the first sort had the beginning and augmentation short, but the State long; the second the Declination long, but the other stages of the Feaver speedily past over; the third had the Augmentation the most tedious. Notwithstanding all which tedious (and perhaps needless nicities) the ordinary way of distinguishing them from Periodical Feavers was commonly as one had Exacerbations and the other none. The cause of which (as they conclude) was that Periodicals were from a Putrefaction of Humors in such Vessels as were of a middle Nature between the largest Channels, and the smaller Rivulets of the Blood. And that as Putrefaction in the largest caused a Putrid *Synechus*, by reason the flame was constantly about the Region of the Heart: so when Putrefying in the smaller Vessels, the distance of the place and Exillity of the passages causes between every Fit a perfect *Apurexia*, and consequently produces that distemper we call an Ague. Between both which (as a *medium*) they placed Continued Periodicals, in which the seat of the matter Putrefying, being not so remote, as to leave the heart at any time, whilst it lasted, wholly undisturb'd; yet the Vessels where the matter flowed were so small, that they contained

tained not enough to keep the Disturbance always in an unequal height, but suffer'd the Feaverish heat to increase or diminish, according as the Matter offending was more or less transported into the greater Vessels near the Heart; which Matter they also held to have such an affinity in all sorts of Feavers, that the difference betwixt a *Causa* and Continued Tertian, was (according to their Hypothesis) only local, a Bilious Matter turn'd to Putrefaction being the Cause, and a preternatural heat (as an effect of that Cause) being the termes, by which they defined both.

§. 2. To make appear, that the Treating of all sorts of Feavers thus promiscuously, or under the general notion of an *intemperies calida* is Erroneous; I shall endeavour to demonstrate, that the *Ratio Formalis*, by which each Species is denominated, is always such as makes an Essential difference betwixt them, and that distinguishing them both by the Matter offending, and the manner of that offence, and not only such an accidental division, as springing from one Generical Root: *Viz.* An *Intemperies Calida*, had its Specificall Divisions correspondent to the Focus from whence that Root was derived. Contrary to which Doctrine

it will on a further examination appear, that an *Ephemera*, a *Synochus* either Putrid or Imputrid, and a *Causus*, with (what often proves the fatal result even of the mildest of them) a *Hectick*, are neither of them (as to their material causes) depending on any thing within us, which according to the course of Nature ought to be Conveighed to any Sequestering Vessel as in Intermittings; or being grown too Volatile to observe an orderly Circulation to be expell'd with what insensibly transpires, as much of the Matter causing Continued Periodicals often is; but only on such an accident over-heating, and consequently violently agitating such Particles of the nutritive Blood, as (being fit for assimilation continue a peaceable Circulation till disturb'd by the company of those exotick Particles; which (like the seeds of fire floating in the Air) whenever they find the pores of the Body, by any Procatartick cause, adapted for their reception, they fail not to intrude themselves, giving these sort of Fevers only a proper claim to what our inadvertency had plac'd as the common definition of all Fevers, *Calor Præternaturalis*, &c.

§. 3. The Nature of these exotick Particles considered, it will appear no wonder why

why they do not (as Periodicals) cause a shaking on their first assault; which, as the *Pars Mittens* in the ambient Air, and the *Pars Recipiens* the serous part of the Blood, I conceive them not capable of doing, that tenuious Matter being on its first ingress incited to so violent a Motion, that it from hence immediately contracts a Preternatural heat; in which condition Transiting the Heart, and supplying the Nerves with an over-heated juice, it rather communicates to both the troublesome effects of Heat, then that coldness and *tremor* as begins the Conflict in those Feavers where the Matter offending is lodg'd in the more consistent parts of the Blood.

From the transpirable Nature of this Febrile Matter, there is also such an Aptitude in it to be expell'd by Sweats, that they often carry it off on the first assault, and by that speedy Expulsion give the Feaver the term of an *Ephmera*. Which seasonable Expulsion, by any Obstruction, or other Accident Impeded, the violent Motion stirring up more of the Sulphureous parts Circulating with the Blood, then can be carried off by its ordinary Salliports; the *Ephmera* is Augmented into an *Imputrid Synochus*, and thence from reiterated supplies, and a longer continuance of the Perturbation, a greater

ter impetuosity, advancing also the Adust and Excrementitious Sulphurs, ascends to the height of a Putrid *Synochus*, or *Causus*, according as the Blood is more or less Saturated with inflammable Particles.

§. 4. For what causes the continuance of these Fevers, it seems to depend wholly on the Preternatural reception of some such Extraneous matter, as we have even now mention'd, since the Blood being by it put into that Exorbitant Motion, we call the Fever. Which once begun the Body having neither Vessels to separate it, nor Matter to supply it; from the defect of the one the Fever becomes continual, as being not recruited; by the other it is without Exacerbations, only as the disturbance increases in the more compact parts of the Blood, by that means putting them also into a flux, the flame being supplied with more fuel, consequently increases till the Conflagration of the whole Mass insues. Which when arrived to, Nature no longer able to indure the Conflict, either throws off so much of the Turgent Matter by some Critical Evacuation that the remainder Circulating freely gives her liberty to return to her former quiet, so proving the precedeing Evacuation Critical and Salubrious; whereas if attempted,



attempted, ere the offending Matter was made fluid enough, its disproportion'd Parts not admitting a total discharge, the vain tryal rather weakens Nature then relieves it by this dangerous and Symptomatical Motion; The Febrile matter being (even in *Ephemerae*) never discharged successfully without some such preparation as fits it for a Critical Motion: an Argument that it is from something more corporeal then Spirits, since insensible Transpirations (to which certainly we may allow as much if not more of Body) may be Impeded without causing a Fever, as is demonstrated by *Sanctorius*, *Med. Stat.* in several Aphorismes; where he makes it appear that its sole stoppage doth not speedily cause a Fever, but only Spontaneous Lassitudes, *Dispneas* and the like disorders of the Nervous juice, as being not corporeal enough to disturb the opner Pores of the Blood, till by a continuance of the first Obstructions they are become a more aggregate Body. The consideration of which hath induced me to reject that Opinion which concludes an *Ephmera* to proceed from heat and Turgescencie of Spirits, unless by that term they understand only the thinner and most Dilated parts of the Circulating Mass; which on a more serious consideration will appear the only Matter offending, as I shall endeavour

indeavour to prove in the following Section.

§. 5. The common definition of a Spirit being a Tenuous, Lucid, and Ethereal Substance generated from the noblest part of the concocted Aliment to serve in all operations as a *Medium* between the Soul and Body. According to which definition we can have no other conceptions of it, then as the immediate Vehicle of all Vitalities; and the highest step any digestion, or alteration in the Body can attain to. Which granted, how a Body, naturally so pure, can admit of such a Contamination, and if admitted, Communicate it to the Heart and Brain, where they ought to be the Regents of Life, and Regulators of Motion, without destroying or at least much damnifying the harmony of both, is doubtful. Neither will it solve the *Phænomena* to say, that what they mean by Spirits, is only the thin and vaporous Exhalations of the Blood; which if granted, it will then be comprehended under the most diluted Parts of the *Serum*, whose several varieties are better Adapted for the reception of those subtil intruders, which are the Procatartick Causes of these Feavers, then the extream Tenuity of almost incorporeal Spirits; those being  
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so far from being capable of that great alteration we behold in Feavers, as even in these lesser disturbances, either of the Heart or Brain, which are the ordinary effects of Passion; it rather seems to be their fuliginous or otherwise contaminated Vehicle, then the Spirits themselves that cause it.

§. 6. An *Ephmera* being thus proved to be no bear Inflammation of the Spirits, I am now to consider what Substance the Body contains that seems more capable of entertaining those Heterogeneous Particles, whence Continent Feavers have their Original. On which indeavour I find none more likely then the *Serum*, its several Varieties being fitting Receptacles for each particular Species, that which passes by insensible Transpiration, by grosser Sweats, or by a yet more visible Excretion of Urine, being by all acknowledged (although of a far different consistence) to be but accidental Variations of what was from one Original Fountain, though the extent of this difference, and the consequents there proceeding having been too slightly look'd on, Antiquity hath past it over with too much silence; scarce allowing what ocular demonstration hath since confirm'd, viz. that there is always a Lympid and serous Matter Circulating with the Blood

Blood as a Vehicle to its groffer parts, and that also a great part of it is sent out of the Blood; either by insensible Transpiration, or visible Sweats; and withal (as it is generally although perhaps falsely believed) that the greatest part of it is cast out of the Body by Urine; which if true Diuretticks would be of more use in *Ephemeraes* then we find them to be, and the seat of the Disease otherwise then here determin'd. These different Species of the *Serum* as they are all subservient to their proper ends, so are they also subject to their peculiar Distempers. For the clearer discovery of which I shall divide the *Serum* into Three parts distinguish'd by their different uses; The First of these serving, as an *halitus* to promote the Motion of the Blood, being the most subtil, as that which ought to pass by insensible Transpiration, and can be of it self no other ways diseased, then what either in some slight Obstructions, so Prejudices the Nervous juice (as I have formerly mention'd) or whilst Circulating with the Arterial Blood sometimes suddenly breaks out in glowing heats, but such as have their Original from a Substance too Volatile to acquire the permanency of a Fever. The Second part of this Lymphid Matter, as what comes next in purity, and seems to be the most likely Subject  
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for the Seat of an *Ephmera*, both of one or more days, is that part of the *Serum*, which is only adapted to pass off by Sweats, as being by nature ordained for promoting the Motion of the Blood, when impregnated with Volatile and Nutrimental Particles; The yet grosser part of the *Serum* being not Tenuous enough for either of the former Evacuations, being as it were the *Menstruum*, in which the more fix'd and Saline parts of the Blood is Dissolved, together with it self, serve also for the precipitation of all impurities of the like Nature, from the Arteries to their several Segregating Vessels; but (as I shall in its proper place prove more at large) the Spleen especially, this Matter being Naturally no larger in quantity, then what serves for the facilitating the passage of such excrementitious Salts, as we have mention'd, being very much less then what we see daily evacuated by Urine: Which both in healthy and Diseased persons, is an Agregat Body, composed of a part of all the Serous Matter, every Concoction casts off as Excrementitious; and in all probability hath its most plentiful supplies from that Digestion perform'd in the Stomach; the most useless part of whose potulent Aliment, when it hath so Diluted the Food as to render it fit to be wrought on by its natural ferment, is

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together

together with part of the same Ferment conveyed to the Spleen, and thence to the Emulgent Arteries; to which Universal Channel of this Saline Serum, every Concoction sends also as much of it, as can be spared from present use. So that what Circulates with the Blood, seems to be no longer in quantity, then what is necessary to Dilute its precipitating Salts: An Office whose Omission although it proves the Root of many dangerous Distempers, as I shall else-where make appear): yet since not concern'd in a Fever, I shall say no more of it here; having as I conceive already made it apparent, that of the Third sort of Serum, the Second is only capable of the Ebullition we find in Feavers; which as the First is too Volatile to endure, so the last is so over-laden with fix'd Salts, that it is not without much difficulty, and such an operation as is perform'd by an internal Agent, made Inflameable; perhaps the reason why we see Scorbutick Bodies so little Subject to *Ephemerae*; a Disease which according to this Hypothesis admits of the following definition.

*An Ephemera is a disturbance of the Heart from a slight Ebullition of the part of the Serum apt to transpire by Sweats.*

§. 7. As for that formerly acknowledg'd distinction into an *Ephmera* of one or more days, on a further examination, it appears no other, then what depends on the present habit of the Body; since where that is easily perspirable, it commonly Terminates in the space of Twenty four hours; whereas, if by any accident, as the density of the skin, streightness of the Pores, or the abundance of Matter, it cannot be so speedily Dissipated, it hath a prolongation; and then from its frequent Circulations, by stirring up some of the more corpulent Particles of the Blood, it puts the whole Mass into a more violent Commotion: From whence the Urinous *Serum* precipitating, together with the Saline parts of the Blood, some of its over-agitated Sulphurs, the Urine becomes discoloured, yet not loaden with so gross a Sediment, as when the Feaver proceeds from any Fermenting Matter, to which that sort of *Serum* is the most proper Vehicle.

§. 8. As for the common causes of both these sorts of *Ephemeraes*, they ordinarily are from violent Action, external Heat, excessive Drinking, or indeed any thing that incites the serous part of the Blood to an inordinate Motion, as is discoverable, especially after Surfets; to all sorts of which it is an ordinary follower, and then proceeds

not so much from any Ebullition or Commotion of Spirits, caused by the Matter received, as it doth from its sending an impure and Turgent Vehicle to the Blood; the Spontaneous Lassitudes commonly fore-running these Feavers being rather from the Superabundance of an Aqueous and easily extravasating Matter, then from any redundancy of Spirits; except they erroneously call the commotion of the disordered *Serum* by that name. Which Opinion seems much confirm'd by the constant attendance an *Ephmera* gives to the Gout, Rheumatismes, and Catharral Distempers, with all others in which the serous part of the Blood seems to be much concern'd; Nay, even to the Dropsie it self, a Disease whose material cause is by all acknowledg'd to be from a superfluity of vitiated *Serum*, which although (as it is Urinous) it rather should produce some Species of Intermittings, yet it often (especially in the beginning) discovers it self under the ordinary Types of an *Ephmera*.

§. 9. For the signs of these Feavers, that are most ordinarily visible, they are a full and strong Pulse, but withal equal, a Turgency of the Vessels, and a universal Heat, which had to precede it neither bruising nor shaking.



shakeing : The reason of which is, that in these the Matter first transiting the Heart, being what was primarily offended, bath (as a preparative to the distemper) detained so many of the most Minute and Volatile Sulphurs prepared for insensible Transpiration, that, when by the first Preternatural Motion set at liberty, by an immediate Mixture with the agitated *Serum*, they impart to it a heat equivalent to what in Periodical Fevers it acquires after many Circulations ; but such, which from its tendency to Evaporate it gives the denomination of an *Ephmera*, so if opposed in that attempt by tainting the more consistent parts of the Circulating Mass, it Transmutes either to a *Causus* or Putrid *Synochus*. For which cause, I know no reason obliging me to acknowledg any greater difference between Putrids and Imputrids of this kind, then I have else-where done between such Intermittings, and Continueds as are of the same Species ; each of those being caused by some such distinct part of the Circulating Mass as formerly past under the term of a Humour, whilst these we now Treat of were conceived to have their Original, either from the Spirits, or from what was more peculiarly term'd Blood: Which, although when compleated, was acknowledg'd to be but the final result of all

those Humors, yet it hath its Diseases peculiar to it self; and such which as they have their residence in the penetrable or more consistent Parts of it, either terminate in *Ephemeraes*, or proceed to such a dissociation of its more closely adhering parts, as, by setting the crass Sulphurs of the Blood also at liberty, produce that alteration we call Putrefaction, by which manner of operation it gives to this Species of Continents the following definition.

*A Putrid Synochus is a Perturbation of the Heart from an unequal and irregular Motion of the Natural, not adventitious Sulphurs of the Blood.*

§. 10. As to the causes of that irregularity, from whence that noble Liquor which is the acknowledg'd Fountain of life becomes disturb'd, they are frequently the same with an *Ephmera*, or Imputrid *Synochus*; that Dissociation of the parts, which we call Putrefaction, seldom or never happening, but when the *Latex* is first disorder'd: Which when begun in an *Ephmera*, if not timely prevented by such means as allay the first Commotion, but let run till the Balsamick parts of the Blood have likewise lost their tone, since it is Blood makes Blood,  
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and that by consequence that being corrupted must likewise in some measure corrupt whatever is sent into it for nourishment: from thence it insues, that the Blood being now grown so Turgent, that the over-extended Vessels are no longer able to contain it in quiet, without discharg'd by some Natural or Artificial Evacuation; either of which may so alter the Position of the Morbifick Particles, that it either hinders their progress to Putrefaction, and so strangles the Disease in the Cradle; or else by giving them liberty to move more freely, so promotes its suppuration, that the Peccant Matter made fit to sepearate, is either wholly or in the greatest part ejected in the next ensuing *Crisis*: Which if not done, that Preternatural Motion of the Minute Parts of the Blood, we call Putrefaction, still continuing to pervert its supplies, the Taint becomes so Universal, that Nature resigning her Regency to the Disease, the future event becomes full of danger.

§. 11. The difference the Ancients put between this Species of Continent Feavers and a *Causus*, was rather verbal than absolute; both being taken to proceed from a Putrefaction of Blood in the greater Vessels, only that of a *Synochus* from what they look'd on

as the Sanguineous part of the Humours offending alone; whereas, if causing a *Causus*, it was always mix'd with store of Biliary, or Cholerick Particles; they acknowledging by that Opinion a very great affinity between a *Causus* and a continued *Tertian*; the difference no more, then that in a *Tertian* the Matter Putrefied in Vessels farther from, in a *Causus* nearer to, the Heart. All which having formerly made appear to proceed from their Ignorance in the Motion of the Blood; I shall spend no farther time in confuting of theirs, which may be better employed in confirming my own Opinion. Which is, that a *Causus* and a Putrid *Synochus* only differ according to the present qualifications of the Blood. Which difference may be also something promoted according to the angular proportion of those intruding Particles. An example of which we have in the excessive use of violent and inflaming Liquors, which although on the first ingress of their igneous Atoms they begin in an *Ephemera*, yet we find them always more apt to terminate in a *Causus*, by putting all the Natural Sulphurs of the Blood into the same Combustion, then what hath its Original from any other Procatarctick Cause. It being here also observable, that such Commotions of the Blood, from whence  
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soever they had their beginning, they inflame it much more at some times, and in some Constitutions, then they do in other seasons and different Complexions. From all which, we may conclude, that the difference, which is observed to be between them, depends not so much either on the private Cause of the Disease, or the form of those Bodies by which the Blood is disturbed, as it doth on the disposition it finds the Body in, when first assaulted.

§. 12. From the observation of that affinity there was between a *Causus* and a Continued Tertian the Ancients were forc'd to distinguish the first of them into Bastard and Legitimate; a false and bastard *Causus* from Choler mixt with Phlegm; a true from sincere Choler; as also to vary it into a *Synochus Ardens*, and *Ardens Periodica*. All which, together with their Putrefaction from a peculiar property of the Liver, and the like mistakes, proceeding from their needless division of the Sanguinary Mass into four distinct humours, will by a sober examination appear to be no more, then a vain and empty *Phenomena*; the conceit of the Humours being forg'd for the compleating of the harmony between what they called the *Macrocosm* and the *Microcosm*; in the products  
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of either of which they concluded some Elemental quality always predominating above the rest. Which exploded Doctrin, by the solid demonstrations of later Philosophers, confuted, and a more rational *Hypothesis* of nature establish'd; I conceive we are now (as Superstructures raised on that Foundation) furnish'd with better means of giving the World a more plenary satisfaction, both as to the matter offending, and manner of that Offence, then hath been formerly done; and that of so large an extent, as it contains not only these we at present Treat of, but also most other Distempers incident to human Bodies. Assisted by these helps to take a more exact view of the true process of Nature, then could be formerly done, I am from thence induced to believe, that as the difference between a Putrid *Synochus* and a *Causus*, is only gradual, as to what depends on the Matter offending, it being more Sulphurous and inflameable in one, then in the other; so it is also impossible, that the Blood should long endure the fury of a *Causus* without perverting such of its Bilious supplies also as, for the uses formerly declared, are at set periods of time sent into the Vessels: Which (although the primary fuel of the *Causus*, were the *Balsanick* and Essential Sulphures the

the Blood) it being now assisted with an adventitious Matter of the same igneous Nature, it must from thence, not only burn more furiously at one time then another (which most Feaverish people are observed to do) but also that those inordinate Conflagrations, if duly observed, have likewise a kind of Periodical returns, although not so visible as in Continued Tertians: From which, as we are assured, that most Feavers from whatever Original, if they give the Body any violent disturbance, are, in prosecuting their Despumation, apt to become complicated; so are we also directed to the following definition of a true *Causus*, or what we commonly call a burning Feaver.

*A Causus is a Perturbation of the Heart from a violent and rapid Motion of all, both innate and acquiste, Sulphurs of the Blood.*

§. 13. Having in my former discourse given the reasons on which I ground this Opinion, from whence may be also deduced the signs by which a *Causus* may be distinguish'd from other Continent Feavers; conceiving now no farther need, either of Treating of them, or confirming my definition, I shall proceed to such distempers,

as are its ordinary Products. The chief of which (besides many other which do also attend on Feavers of any other Species) is what we call a Hectick Feaver, a Distemper as frequently succeeding Continents, as Scorbutick, Ictericall, or other Diseases proceeding from Viscous and Saline Obstructions, do to Periodicals; it being a distemper apt to follow all sorts of Continent Feavers, and (although from Causes far different) as often succeeds an *Ephemera*, as a burning Feaver. The reason of either of both which I take to be as followeth. That when a Hectick succeeds an *Ephemera*, it is caused by a sudden over-heating of the Universal *Latex*, which, as Natures stock of Radical moisture having its Perennial supply from the Lympheducts, is continually sent into the Circulating Mass to serve as a Vehicle, or convey toward its more easie distribution into the several parts of the Body; where its Office is the diluting of what ever is ordained for the Aliment, even of the most solid parts: Which without such a medium could never have their nourishment so Assimilated to their several Substances, as to serve either for their Continuation, or Augmentation. Now since there must be, together with this nourishment (as I have formerly proved) a Liquid Matter always concomitant;



concomitant; Besides Rheumatisms, Aches, and other Distempers, which its superfluous quantity, acrid quality, and irregular Motion, causes in the extream parts, it must be also (when grown vitious) as liable, by over-agitating the Universal Latex, to render it unfit for the performance of the fore-mentioned assimilative Vertue. Instead of which disseminating those Acrid and Morbifick quality, it had contracted from the preceding Feaver, to all parts of the Body, it together with them communicates that slow and scarce discernable heat, discoverable in a Hectick. Which is also most demonstrative in a short time after meals; because then every particular part is to receive its fresh supplies of nourishment; Whose unhealthy approach may be perceived, as in a boyling Torrent it passes the Arteries, in whose greater Channels there is commonly perceived such a glowing heat, as renders the nourishment they carry so unfit for Assimilation, that over-burthen'd Nature (of ability to do no more) lets the Peccant Matter evaporate in faint and clammy Sweats; Which only carrying off the most Tenuious part of what offends her, the more Viscous, as they Transite the Lungs, become apt to Restagnate in its spongy Body, and being there converted into Phlegm, either to be Expecto-  
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rated in frequent and troublesome Coughs; or Circulating with the Blood, it is precipitated in Rheums; which often become salt and Corroding; so laying the Foundation of Ulcers in the Lungs, whose malignant Quality do also accelerate the Fever, and make the Disease become more Complicated.

§. 14. As in this manner a Hectick is generated from a preceding *Ephemera* and the depraved Quality of the Vehicle; so when from a defect of the Matter conveighed, which is that sort of it that succeeds a *Causus* or Putrid *Synochus*, it is a consequent of the violent flame, that preceded it; that (as having incinerated the whole nutrimental Mass) leaving only its Adust and dispirited Embers for a supply to Languishing Nature, render it by that means so unfit for assimilation with the parts acquiring nourishment, that from its defect that decay, visible in Tabesied Bodies, is produced. So that Hectick Fevers from this two-fold Cause, may as well be the Products of the Serous Vehicle, and succeed *Ephemeræ*, as of the over-torrefied Blood; as when it follows more violent Distempers, it being much oftner from one of these preceding, then either

ther from any latent *Diatheſis* of the Blood, or Internal Ulcer.

§. 15. As Feavers of this kind are not only caused by a matter different from what causes Periodicals, but also have as great a disparity in the manner of admitting that Matter into the Blood; so we cannot expect, when we see that Matter discover it self in various Symptoms; but that the cure, both of them and the Feavers they depend on, ought also to be varied accordingly. Our chiefest aim being in these, to allay that violent Conflagration of the Blood, ere the over-boiled *Serum* inflames some noble Part; which is to be done, either by visible abating the quantity of the Turgent Liquor by Phlebotomie, or by giving liberty to its most Transpirable parts in plentiful Syveats; either of these Evacuations being more proper (especially in the beginning of the Disease) in these sorts of Feavers, then any Ejection of the grosser Excrements; the last rather freeing the Blood of these Fermentative Particles, that are the common causes of Periodicals, then of those Extraneous Bodies, that incite it to the irregular Motion it suffers in a *Synochus*. Notwithstanding which, since by reason of that vitious juice, which the Arteries (as an assistant

stant to Fermentation) do always convey to the Stomach, the parts subservient to the first Concoctions must be also speedily depraved. Wherefore in its farther process both Emeticks and Catharticks (opportunately used) will be also necessary. As for the use of Digestives and Alteratives they seem to be here more necessary then in other Fevers; as probably they ought to be also of different qualities: it being questionable whether what allays the Fermentation in them, will produce the same effect where the Blood is disturbed by Ebullition. It here also ought to be considered, whether it be fit to give any check to the violent Motion of the Matter offending, before the position of its parts are so altered, by the continual Coction, as to be rendred fit for Expulsion; since in doing so, we may possibly hinder the expected *Crisis*. All which considerations requiring an exact and Methodical proceeding, I shall refer them to that Chapter where I shall (God willing) handle what concerns the Therapeutick part in general.

## CHAP. X.

*Of Pestilential and malignant Feavers, together with the small Pox, and such other Epidemics, as are Communicated by infection.*

The Contents of the Chapter.

*Pestilential Feavers but accidental, and of such a Species, at the present Tone of the Blood is most apt to entertaine. §. 1. From whence the venomous Effluviūms causing the Plague are disseminated through the Atmosphere. §. 2. The variation of those Effluviūms causing both the diversity of Symptoms, and difficulty of the Cure in the first assault. §. 3. How Infection is Communicated from one Body to another. §. 4. Why some Species of Animals are subject to it, when others are not. §. 5. Some Objections, seeming to contradict the Opinion here maintained, answered. §. 6. Why some Venomes infect at a distance, others not. §. 7. Why it is of an Operation different from what is more Corporal. §. 8. Why it indeavours its expulsion in a different manner. §. 9. Where there ap-*  
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pearing under various Types. §. 10. What the difference is between diseases absolutely Pestilential and those we call Malignant. §. 11. Some enquiries into the Nature of the small Pox. §. 12. Whether it participates of any Venemous Malignity, or not. §. 13. Why so few escape it, as also whether it may be had more then once. §. 14. Whence the difficulty of discovering it on the first assault. §. 15. The Nature of such Epidemics as we call new Diseases. §. 16. Although Infections they have no venemous Malignity. §. 17. Why they appear under various Types. §. 18. Why those of a relation are more apt to be infected then others. §. 19.

§. 1. **A**Lthough the cause of this Disease (having its root as deep as the Divine Vengeance) makes the peremptory Assertion of all such, as attempt to derive it from any inferiour being, favour of an Athiestrical boldness; yet (referring its occult Original to the Omnipotent Power) our modest disquisition may trace it so far, as the light of Nature, and the narrow confines of Human reason gives us leave. Which being a task something besides my design in this present Tract, rather undertaken to discover the differences of such ordinary

ordinary Feavers, as daily experience acquaints us with, then the scarce discernable *Phenomena* of what is too terrible to be view'd, but at a distance, I shall only briefly, and for methods sake deliver my Opinion; And (since my Habitation was in the last grand Invasion of this dreadful enemy, so happily remote from those places where he made his greatest Massacres, that I had only the terroure of hearing, not the unhappiness of beholding so dreadful a devastation) leave its more large discovery to such whom a dangerously purchast experience hath rendred better able to perform it. The most discoverable causes of it being such, as cannot be reduced to those Rules whereby I indeavour to demonstrate the Nature of other Feavers; a Pestilential Malignity seeming more proper to be reckon'd amongst the number of those things that cause Feavers by accident, then the absolute cause of any distinct Species, the intromitted Venome being of so operative a Nature, that it wants not the assistance of disordered Blood, or Humours to afflict the Body; since where violently assaying, it kills without the Ebullition of the one, or Fermentation of the other, although it ordinarily puts that part of the Circulating Mass, which it finds most depraved, and prone to an irregular

Motion likewise into action; From whence the Venemous *Myasma* appears cloathed in a dress resembling the ordinary Type of that Feaver; and for the most part so continues all the time the Air is corrupted with those Malignant Effluviiums, the Symptoms of the Feaver it incites (though much more violent then the Nature of the Disease requires) being discoverable in most Infected persons. The reason of which proceeds from the congruous *Diatheſis* of the Blood, which some preceding Intemperance of the Air had indifferently communicated to all within the Sphere of its Activity, and consequently gave them an equal capacity of entertaining the Exotick Venome.

§. 2. The distinction of this Disease in to the absolute plague, and what they call only Pestilential, seems to depend on such a gradual difference as what we call intention, and remission; or as the introduced Venome is of a more acute and Mortal, or a less dangerous Nature; Which depending on the various formes of their Minute Particles, the dissimilitude of those, admits not of any general method, either in the Diagnostick or Therapeutick part; since the form of the Venome differing in one Visitation from what it is in another; and each  
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sort giving the Body a disorder, Congruous to their own Specifick form, they must of necessity both cause an equal variety in those Signs, by which they are to judge their events; and an equivolent alteration in those Medicines, by which we endeavor their expulsion. Which Matter to be expell'd since not otherwise discoverable, then by its most apparent Symptoms, for its more Methodical performance, we are to take the following circumstances into consideration.

1. From whence these Venemous Effluvia are disseminated through the *Atmo-sphere*.
2. By what means they communicate their Infection from one Body to another.
3. Why some particular Species of Animals are subject to Infection, others not.

§. 3. In answer to the first of these, it is a controversie yet unreconcil'd, whether the invisible Arrows of this Venome are sent from the Malignant Aspect of the Stars; From a continued Fomes, or Seminary of Infection always retained in some place or other of the Terrestrial Globe, (and as occasion is given) dispersing its Contagion to  
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places more remote; Or lastly, whether it proceeds not from venemous Effluvia, either of Subterranean Vapours, or some Putrid Bodies corrupting in the Ambient Air. For the First of these Opinions, admit a certainty in *Astrology*, which, notwithstanding the Assertions of its most celebrated Professors, many eminent *Mathematicians*, as great *Philosophers* by their declining, it gives us a just cause to doubt; it is however full of difficulty (if not impossibility) to bring it within the compass of any particular rules, since besides our common observation frequently disproving what hath been affirmed by the ablest Artists in that Science; the manner of Communicating such various Influences from those remote Bodies to us, is yet no other ways made out then by referring it to occult qualities, a term so far removed from any thing of demonstration, that it hath obliged all rational Practitioners to the search for more obvious and demonstrative causes of this, as well as other Diseases, then what depends on such distant *Phænomena*. Wherefore (as full of uncertainty) waving its *Astrological* Causes, I shall pass to an examination of the Second Opinion: *viz.* its proceeding from a Fomes, or Contagion always resident in some part or other in the Universe; an Assertion, which

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I am not much more inclined to believe then the former, since if so, besides the impossibility of taking the Disease any otherwise then by Contract, either mediate or immediate, the manner of its assault would be withal less various then we observe it to be in several Invasions; since then, the Symptoms not depending on the Nature of the Venom, would have no other alteration then what proceeded from the Constitution of the party Infected; neither would it be so apt to break forth in Prisons, Ships, and other places where any accident hath given the Air a more then ordinary Corruption. For which reasons, dissenting both the former, I shall rather adhere to the latter of the formerly recited Opinions, which hold an *αἰθήρη* or Steam of incongruous and venomous Effluvi-  
ums, constantly during the time of the Infection, emaning from some Sublunary Body (and that most commonly Subteranean too) whose occult venome lies too remote to be the object of our Senses, there always being in those dark repositories many newly Enbriated Vapors, which not finding a suitable entertainment in their proper Matrix, are carried to a visible bulk, leave the Fuliginous Womb, in which they were first conceived for the freer Receptacles of the Air, through which (though many of them are

ring'd with a Venene Malignity) if they find it so Tenuious, as to be easily past (which is that we call a healthy Air) they so speedily take their flight, that without Stigmatizing the Atmosphere with their noxious Particles, climbing to a higher station, and imbodying themselves in a Cloud, they become the Matter of Tempests. Which although generated from Venemous Principles yet their subtilest vapors being by the cold and moisture of the Circumambient Body, forc'd to Congregate themselves in the Centre, there acquiring the Nature of Fire, the activity of which Element so alters the Malignant position of its other parts, that it now becomes the purifier of what its grosser Corporities had contaminated with a Poysonous *Myasma*: This being the cause of that common observation, that Lightning and Thunder clears the Air. Sometimes these same Effluviiums acquiring yet a Station more Sublime, elevate themselves in Comets, not without reason (as in that old verse,

*Nunquam in Cælo spectatur impune Cometa.*

Noted to be the fore-runners of Infectious and Malignant Diseases. To which Opinion there is none but will consent that knows any thing of the generation of these Mete-

ors, and not only that they are a Sign, but that they have also a possibility of being a cause of Contagious Diseases, they in all likelihood leaving as many impurities in the lower, as are exalted (together with their most igneous Atoms ) to the higher Region of the Air, and those, such as having no succeeding violence to dissipate them, as in Tempests, cannot but communicate much of their Malignity to that part (if they had their Original from the Earth) through whose Atmosphere they were first Elevated.

§. 4. That these venemous streams breathing from Mineral Exhalations, sometimes Infect the Air with one sort of Poyson, sometimes with another, is also very probable; and that from thence the various *Phenomena* of the Disease is to be deduced, they being, according to the form of which they are composed, more apt to injure either the Animal or Vital Spirits. Whence as their concomitant Symptoms meet with a suitable variety to the Part Affected, so is the Feaver also rendred either Continent, Continued, or Intermitting, according as those Particles find the Parts of the Blood in every individual Body fit for Motion. So that in some, it steals slowly into the Circulating  
Mals

Mass; and (although always from an External Agent) puts not its Limpid parts first into Motion, as the less agil Matter that causes a *Synochus* doth; but, as invited by some peculiar Humor, to those Pores it hath the greatest Affinity, transiting the rest without a disturbance, it puts that alone into Motion, and consequently begins the Feaver, either with Fermentation, or Ebullition, according as the Matter that receives it is qualified. From which manner of admission into the Blood, according to the capacity of the Pores that receive it; it also comes to pass, that Diseases (although very Venemous) are not so apt to communicate their Infection to some Bodies, as such that are in their own Nature less dangerous; we often finding that ordinary *Epidemicks* though without any venemous Malignity, when any *Procatartick* cause hath pre-disposed the Body for their reception, are much more catching, though less Mortal. The more dangerous Venome not having its Minute Parts, so suitable to the Receptacles, either of the Lungs or Pores of the skin, the common Avenues through which all Infection is by the *Systole* of the Heart attracted.

§- 5. The Opinion of the Ancients that  
Infection

Infection was Communicated from one Body to another, *Διὰ τῶν εἰδωλῶν τῶν πραγμάτων.* by intentional Species or the Images of things, being an Opinion of equal obscurity, with that of occult qualities; for the same reasons I think fit to reject, rather inclining to believe, that all Infection is communicated from one Body to another by the Motion of such Minute Particles as we call Effluvi-ums, which being the sole Composition of the Atmosphere, if at any time they are sent from a venemous Matter; that being drawn in by the Systole of the sound Body, which was expell'd by the Diastole from the Person Infected, cannot but withal give the Blood the same alteration and intemperate Motion with that of the Body from whence it was expell'd. Notwithstanding which there may be some difference in the Symptoms, as the same Venome may in one find the Head, in another the Heart, or some other noble part most fit to receive its Impulse; which is so various, according to these several qualifications of the Body, that sometimes the whole Mass of Blood being either so free from Morbifick Particles, as not to be capable of a disturbance, or else grown so languid by a preceding Disease; as not of ability to oppose its storming the Heart, giving the intruding Enemy no repulse at  
any

any of its out-works, it suffers it to destroy the Body without the disturbance of a Feaver. The observation of which gave occasion to *Hypocrates* to tell us, that the Plague sometimes proves mortal without any Concomitant of that nature, whereas in ordinary Malignants there is always some Humor put in agitation that denominates the Disease.

§. 6. That all Bodies have not a like Aptitude of being Infected; as also, that it often proves direfully mortal to some sort of Animals, whilst all of a different Species are free, seems to depend on one universal Cause, *Viz.* the capacity of Pores fit to receive (by its common Vehicle the Air) such Effluvi-ums of that Nature as are then wandering in the Atmosphere. Which, as the reason why it assaults not one Species of Animals as well as another, is from the disproportion of the Pores, by which it should enter; so is it also (when the Infection lies amongst Human Creatures) the cause why some take it not. It being also very likely, that all Bodies how minute soever, are most apt to follow the Motion of such, with whom they have some Analogy, so none are more prone to receive Contagious Diseases, then those whose Blood harbour some Impurities bearing a similitude



to what gives the Pestilential taint to the Air, but such, which as it had its Original from some defective Concoction or other external Error, so till stir'd up by more active intruders (as the Feminine and Passive Principle of the Disease) it lies dormant, whilst those Morbifick Atomes, that are as it were its male Progenitors, although never so violent produce no ill Effect when they find no such Aptitude in the Blood of entertaining it.

§. 7. For the more full confirmation of this Opinion; I conceive my self obliged to the answering of the following Objections; First, if there be any such preceding venome in the Body, how it continues healthy before the time of Actual Infection; Secondly, whence the Venemous Quality comes to be Communicated to the Blood in Bodies living far from Infected places, which notwithstanding we see most apt to take Infection on their first approaching Contagious Habitations, In answer to the first, we are to consider, what we call a Predisposition of Body to be only such an Aptitude of receiving a Morbifick Taint from the Pre-dominating Venome, as proceeds from a present capacity in the Pores of the Body; to admit Particles of that Figure, before whose admission there

there being no actual Venome in the Body but only a Potentiality of receiving it ; the Analogy between the Recipient, and Matter to be received, being only from the afore-said similitude it hath to the Pores disseminated through the Mass of Blood. Notwithstanding which (as I have already hinted) till the reception of such a Matter, the Blood observes a peaceable Circulation. Which Potentially in the Recipient likewise serves for the proving our Second Query ; It being very probable, that in times of Universal Plagues, not only a depraved quality is Communicated to our Blood, from a generally vitiated Nourishment, every Species of our Aliment containing more or less of the Epidemical Malignity floating in the Air ; but also the general Consternation, and continued Apprehension that most People are put into, that live where there is any probabillity of danger, so much infebles the Tone of the Blood by that continual Eclipse put upon the Spirits, that when within the verg of any imminent danger these preceding qualifications of the Blood, and its more active off-spring, the Spirits render such persons far apter to receive a Contagious Taint, then such that although they hardly breath any but Infected, and impure Air, yet being not prepared by such a Lax temper

temper of the Parts, and Dispirited Imbecillity of Mind, as fear hath implanted in the other, but rather imboldned by a constant familiarity of danger, they are most commonly less liable to the assaults of Infection, (especially when the Contagion hath been of any long continuance) then those whom the preceding terrour of so violent an enemy had by depraving their Imaginations prepared for its reception; it being from hence that the common Opinion of fear causing Infection is grounded, as also that persons not subject to take Infection at one time, may be at another; and that the same person may have the Plague several times whilst one general Visitation continues, since the capacity in the Blood of receiving it being from the formerly mentioned Analogy of the Pores whence *Si (quicquid recipitur, recipitur in subiectum bene dispositum)* it cannot otherwise but that on every equivolent depravation of it, the Body must also become alike subject to entertain the Contagious Atoms; Although in the several Pox, and several other Diseases, where perhaps this capacity of Pores we have mention'd had their Fermentation in the Mothers Womb, and were consequently coevous with the Body (as I shall further prove in its proper place) the returning Contagion after the first assault

is

is over, rarely (or perhaps never with the like facility entertained.

§. 8. The reason why Venemous and Contagious Effluviūms communicate not their Poyson all alike, but stigmatize the Body with so many various Diseases and different Symptoms, as some Chronick, others Acute, and it seemsto be as each particular Venom operates according to the Sphear of its own Activity; some shooting their invisible darts afar off, as the Plague, and such other Diseases whose seminal Principles we may for that reason apprehend to be more fugitive and Volatile then such as Circulating in a smaller Orb communicated no Infection to any other, but what is carried upon the moist and streaming wings of the breath, ere its expired Particles have so blended themselves with the vaster Wilderness of Air, that their divided parts become to feeble to produce any such Effect. Examples of which are frequently seen in Consumptive and Scorbutick People, as what acts in a compass yet more narrow, may in the Infection contracted from Leprous, or Scabby Persons; the conveighance of which is on such lazy effluviūms that they can reach no farther then what is united to them by contract. The reason of all which is, from  
the

the one having its Vehicle composed of the most Agile and Volatile Parts of the Atmosphere, the other of such as are more Saline and fix'd, being of a proportion not so fit for nimbleness of Motion.

§. 9. That these Venemous, or at leastwise Contagious *Ανεργα* do not prosecute their designs in the same manner, that more Corporeal Poysons do (although they nearly resemble them) is likewise demonstrable. The cause of which is, that they being only the more subtil, and Spirituous Effluviūms of venemous Concretes, or perhaps only the embrionated Matter of such Poysons, as forsaking the Matrix, Nature had confin'd them to, whilst in *Solutis Principiis* do, when at liberty, insinuate themselves into Bodies by Receptacles far different from what the more corporeal do. By which means they first seize on the Spirits, either Vital or Animal, according as the Arteries or Nerves are most capable of receiving them; whereas, more Corporeal Poysons received into the more spacious repositories of the Body, produce their Mortal Symptoms in a more Demonstrative, and Methodical manner; first injuring the Parts they were communicated to, and from thence by some of the Circulating Vessels, transferring their Malignity to others, as is

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discoverable

discoverable from the bites of mad Dogs, Serpents, &c. as also such venomes as are taken into the Stomack.

§. 10. As according to the manner of these Poysonous Corporities operating either in the Blood it self, or its coagitant Parts, the expulsion is always made either by Ebullition or Fermentation; so by their Motion, the Parts they incite are discoverable; since if it be the Sulphureous and igneous part of our Blood, as the Motion is with an impetuous violence; so its ordinary way of Ejection if it kill not immediately by a sudden Flux to the Heart, is to some External part in fire and sharp Carbuncles, whilst some other Species of it with no less sure (although a slower) danger insinuating themselves into the more Crass Parts of the Circulating Mass, which finding less fit for Motion, whilst it violently indeavours an entrance, leaving the more dense parts to a kind of Congelation in the Vessels, it forces the thin and Ichoreous to Extravasate. Which however being not subtil enough to Transpire the pores of the Skin, it settling there, by reason of the deficiency of Spirits, being as it were mortified and grown into a dangerous condition, it appears in Black, or Purple spots, inclining more or less to Black,

as the Matter is nearer, or farther from Mor-  
tification.

§. II. The reason, why Pestilential Dis-  
eases appear, according to various Types,  
depends not so much on the form of the Ve-  
nome, as the Vehicle it finds in the Body;  
the visible Symptoms depending principally  
on such Matter, as the insulting Venome for-  
ces into action. Although sometimes in such  
Bodies, as have very lax Pores, it is recei-  
ved into such open Salliports, that without  
staying long enough to mix with any other  
Matter as a Vehicle, it, immediately assaulting  
the Heart, kills without a concomitant Fea-  
ver; win others, where the Matter received  
is not so nimble Malignant, and the Pores  
only open enough to receive it into the Cir-  
culatory Vessels, it there not finding a Mat-  
ter to entertain it more Tenaceous than the  
lightest, and most Evaporable part of the  
*Serum*, the compages of the Blood being  
too firm to give it an easie admission, the  
Feaver continues gentle, admitting of no  
tumultuous assault, either from extream  
heats, or other Morbifick Symptoms, more  
than faintness, caused by circulating of the  
malignant Matter through the Heart. It be-  
ing in this Species of Pestilentials that the  
Blood is so inconsiderably disturb'd that al-

**though** there be a mortal Venome flowing together with it in the Vessels, the Nature of it is so Volatile, that it is rather apt to insinuate it self into the finer Channel of the Nerves, and there Eclipse the Animal, then in its progress to oppress either the Vital or Natural Functions, so possessing it self of the royal Fort of Life without summoning it with a Disease.

§. 12. These being (as near as we can discover them) the dark paths by which infectious Diseases are conducted into Human Bodies, we are next to consider whether from the manner of their entrance, or other accident, we can inform our selves what distinguishes them into such as are absolutely Pestilential, or those which by a milder term we call Malignant. All which seems rather to depend on the quality, then quantity of the Matter; the swiftness of its Motion, and the violence of Symptoms, that denominate it the Plague, depending rather on its Agility, then bulk, as the Aptitude of disseminating it, by Infection, doth in the capacity the Air hath of receiving Bodies of such a Dimention. For which cause many Malignant Diseases, where the unactive Venome is less mortal, are notwithstanding as Contagious as those of more danger, the whole  
Atmosphere,



Atmosphere, from some preceding unseasonableness of the year, being impregnated with Morbifick Particles. So that we scarce drawing any breath, but what hath its wings laden with it, the Infection proves universal to such as live in the same Region; whereas, if no such antedated indisposition in that Vehicle of Effluviūms, hath fitted our Bodies for their reception, having no Pores sutable to entertain them, how numerous soever the Pestiferous Atoms are mix'd with it; the Air not receiving them, they are suddenly Precipitated, and retreating to their first beds, either wholly cease the Infection; which is the cause why we sometimes see Pestilential Diseases stop on a sudden; or else spreading themselves to no larger a circumference; then the steams flowing from the Diseased party extend, as the Infection is more slowly conveyghed, so doth it also by the disproportion of its Figure to the Pores it is to enter, prosecute its Malignity with less violence. This being that sort of Pestilential Feavers, which (although in their own nature sufficiently Malignant) do in effect but few more then those that are commonly concern'd about the sick party.

§. 13. Having thus briefly delivered my Opinion of the causes of Pestilential Diseases,

eases, referring you both for the Prognostick and Therapeutick part, to such whose larger experience is in that kind better able to inform you, then I pretend to be (amongst which I take Dr. *Hodges* his *Λοιμολογία* (as our Climate the most exact) I shall now take a view of such Diseases, as being of a manifest contagious Quality; and consequently reckon'd amongst Pestilential Diseases, are notwithstanding (in my Opinion which I shall endeavour to support by reason) free from any venemous Malignity. Amongst this Classis the small Pox, Measles, and several other Epidemick Diseases, especially such as are accompanied with any *Exanthemata*, are to be reckon'd. I shall first begin with the small Pox, a Distemper grown of late years much more Mortal, then in former Ages, which although more likely to proceed from some universal or (as it were) hereditary taint disseminated in our Blood, yet gives occasion to the World to judge, that the Method ordinarily used by Physicians for its Cure, is founded on uncertain grounds. On which consideration, some industrious Persons of late have endeavour'd an absolute alteration in the process of its Cure, how rationally the success may in time demonstrate, which leaving to the test of larger experience, I shall no farther engage my self

in the controverſie, then only to give my Opinion concerning the following Propoſitions.

1. Whether it hath any venemous Malignity in it or not?
2. Why ſo few eſcape having it that live to a conſiſtent age?
3. Whether it may be had more then once.

§. 14. For the firſt of theſe, I cannot for ſeveral reaſons allow it any ſuch Malignity, as what either cauſes the Plague it ſelf, or any other ſort of Peſtilential Feaver, either of thoſe being ſo frequently the Products of corrupted Air, that we have reaſon to think (though leſs viſible) they always proceed from Effluvia of the ſame Nature; whereas, the ſmall Pox never happens on any ſuch account; neither is it ordinarily (if at all) the Off-ſpring of any Procatartick cauſe, no error committed in the uſe of any of the fix non-natural things being ever (or very rarely) apt to produce it. Which conſider'd, I am eaſily induced to believe, that the true *Variolæ* never happen on any other account, then Infection, and that, as it is a Diſeaſe only incident to Human Bodies, no Animal of what ever Species being Subject to it; ſo

it hath its Vehicle composed of such Atoms, as are only proper to those Pores ordained either for our Inspiration or Perspiration, all such Aereal Effluvia having their disseminated vacuities so fitted for their reception that as they are easily communicated from a person formerly Infected to the Ambient Air, where they multiply themselves as the Atoms of Fire when expanded into Light do, by altering the texture of the Aereal Niter, by that means so fully impregnating the Air, as to render it capable of breeding the same alteration in all Bodies fitted for its reception. Which being done without the Confluence of any poysonous Effluvia, either from Subterranean damp or other corruptions of the Air; I know no reason of attributing any more Malignity to it, then we do to such ordinary Feavers, as we see catching, and infectious from a consimilitude of Matter; their Procatartick Causes being adventitious, and such as had their rise from some preceding Errour; whereas in the Disease we at present handle, it having something in it more Analogical to human Nature, it seems more rational (omitting any such Procatartick cause) to impute it only to Infection, and a Naturally implanted Aptitude in our Blood to receive it. The reason of its being (especially in this last Centurie)

turie) so frequently mortal, I take to be from a seminal Depravation of our Humors, as to its Antecedent cause: whilst its Con-  
 junct is either from a suppression of the Pu-  
 trid Matter, from the *Exanthemata* striking  
 in by reason of some external cold, or in-  
 ternal deficiency of Spirits; or else from an  
 Augmentation of the corrupting Humors to  
 that degree, that nature not being able to  
 expel them by Pustules to the External  
 Parts, the Internal *Viscera* becomes so over-  
 burthen'd, that they are no longer able to  
 perform the Offices necessary to Life.

§. 15. That so few if living to the years  
 of **Maturity** escape, having them some time  
 or **other** within the compass of their lives,  
 may proceed from that similitude, the In-  
 fection hath to those Effluvioms, which are  
 constantly the **material** part of what we take  
 in by Inspiration, the Contagious Particles,  
 carrying the Idea of this Disease, being of  
 such proportions as are more fit to be mix'd  
 with the Air attracted by human Creatures,  
 then any other Morbifick Atoms, whose in-  
 trusion is apt to give the Body a disturbance.  
 Which facility of entrance in the Matter to  
 be received, finding also a like propensity  
 in the Recipient, as an impress all human  
 Bodies receive in the Womb, and from the  
 material

material part of their first nourishment ; that congruity of parts between the Recipient, and Matter to be received ; rendring all Bodies, whilst the Pores retain those proportions they brought with them into the World, (perhaps an effect of such impurities as were contained both in our Seminal Principles, and Menstrual Nourishment) apt to the reception of those *σπέρματα πλανώδεις*, or Disseminated Particles of Contagion, on the approach of any formerly Infected Person, the steaming Effluviūms proceeding from such, being the only Particles capable of entring those Pores, that the fore-mention'd Seminal Taint inherent in the Blood, hath not only rendred apt to receive them, but also on their Association to put the whole Mass into the like Morbifick Motion with that it formerly disserter. Which when once begun, it ceases not to prosecute, till both the Blood and Universal Latex are converted into an Ichorous and Putrid Matter. Which being the position of Parts, that best suits with their own formes, it for the future moves more gently, and the Matter being ripened for Expulsion, the violence of the Feaver ceases; the Tone of the Blood in the Infected Person becoming for ever after so changed, that it hath for the future no Pores fitted for the reception of the like Matter.

Matter. For which cause few have the true small Pox twice, although many are deceived with the appearance of a *Pbliciæne* or some other *exiguæ* which often appear both in Malignant and other Feavers; it being as rare (and perhaps more) to have them twice, then it is wholly to escape them. It being a Disease so incident to human Bodies, that although it hath not (like those we ordinarily call Hereditary (which are for the most part Chronicks) its residence in the Saline and fix'd parts of the Circulating Mass, it is notwithstanding as firmly seated in its floating Mansion, where, although Transported on the light wings of its most Sulphureous and Volatile Parts, its Seminal Principles continue permanent, and capable of receiving Infection, as long as that disposition of the Pores, which we were bred withal, remains in the Blood. Which is, till an imbibed Infection hath possessed them with those Morbifick Atomes suitable to their Dimensions (what we call a Predisposition of Body, being in all Diseases from the like cause) which when done, the disordered Motion they put it into, so alters the Texture of the Blood, that it renders it incapable of ever acquiring the like form; and consequently of being possess'd with a matter endeavouring the like way of Expulsion.

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The probability of which Opinion, I shall here only confirm with the description of a Feaver, which in the year 1671. towards *Autumn* reigned in many parts of the *West of England*. It ordinarily began in the manner of Continued Feavers, and in some of the elder sort, had its future Exacerbations accordingly, but in the younger and more florid people, by a speedy Association of those Humoral and Internal impurities, with the Balsamick Sulphurs of the Blood, and its External supplies; it changed its Type, and rather appeared in the shape of a *Causus* or putrid *Synochus*, often an ill managing of it on the first assault proving mortal, and (although no ways Infectious) was frequently observed (especially in the younger sort of people) to produce Pustules, both in shape, and all other respects resembling the small Pox, they rising to a proportionable height, and possessing not only the *Epidermis*, as a *Phlictena* doth, but the skin it self, in which it also left marks little less visible, then the Pox. Notwithstanding all which, the same Feaver, as was demonstrated by all the attending Symptoms (the Eruption of Pustules only excepted) in ancient people, and such whose Bodys were less Perpirable, reigning with us much severity, although without any such External appearance,



nace; in the defect of which, although much more dangerous in its event, and troublesome in its Progress, oppressing the Patient with pains about the *Præcordia*, *Dyspneæ* &c. it was at length by Coughing Expectored in a matter consimilar to what in younger people was carried off in the full ripe matter of the *Exanthemat*. The Observation of which assures me, that many of those who imagine they have had the small Pox several times, may be (and often are deceived by some such Analogical Eruptions, very few ever having the small Pox twice; since, whether then they had them either much or little, it is most probable, the Atomes of Infection were received *Secundum modum recipientis*, or according to the measure and capacity of their consimilar Pores.

§. 16. As for such Diagnostick Signs, as discover the growing Distemper to be the Pox on its first assault, they are (as all such as belong to any Disease acquired by Infection) with much difficulty discovered, having this property equal with such as are from venomous Principles, that on their first Ingress into the Body, they are apt to appear in such formes, as the present *constitution* of the Blood was most apt to entertain. The horror found in the first onset declaring them, sometimes

sometimes to begin the Conflict by Fermentation, although the Aptitude of the Blood to entertain an infection so suitable to its Pores, by a speedy reception of it, sets the whole Mass into an Ebullition, whose greater violence soon over-powers the weaker attempts of the other, and prosecutes the remaining part of the Disease in a constant Ebullition, hardly from any apparent Symptoms distinguishable from what is discernable in a putrid *Synochus*. In whose shape it also frequently makes its first Assault, appearing in no other dress, till the prepared Matter breaks forth into Pustules, which happens not till the whole Mass of Blood is become Ichorous and purulent. A mutation not seen till such time as in other Fevers the indeavours of Nature hath prepared it for its first critical attempt. Which in such as are very Acute (amongst the Number of which this may be reckon'd) falls not out, till the fourth day; at which time if the Expulsion be so vigorous, as to disburthen the Vessels, the depurated blood, for the future part of the Disease, circulates so peaceably as it Prognosticates a good event; If not, the return of the Peccant Matter, after Nature hath been weakned by a vain indeavour of expelling it, renders all more dangerous, the *Fætid* and *Putrilagious*

*hous* Matter retreating not only to the Sanguinary Vessels, but also defiling the Lymphic Liquor, and Nervous juice. Both which assisting the formerly begun contamination of the Blood, speedily convert the whole Mass of Humours into Putrefaction; the glutinous juice of the one, and the Aqueous of the other, being that which mixing with its more Balsamick Parts (now depraved by the Infection) gives it that form we see it appear in the Tumefied or Ulcerated Pustules, and from whose preposterous return all those terrefying Symptoms of faintness, oppressions about the *Precordia*, *Delirium* &c, have their Original.

§. 17. For the Cure of this Disease together with its attending Symptoms, although in former times it was so easie, that it was for the most part referred to Nature, and careful attendants; Physicians being then as much neglected on the account of the slightness of the Disease, as they are now for the danger of their ordinary proceedings. The consideration of which hath put some ingenious Practitioners of these times on a new way of prosecuting the Cure, which though I have heard hath been used with good success, yet having my self no experimental knowledge of it, and the method being al-

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So extant, I shall leave it either to be followed, or not, by such whose abilities in Physick hath rendred them competent Judges; whilst referring such Symptoms as are most usual in it to the Chapter where I handle them in general, I shall briefly deliver the Method I have frequently found successful. Which is, that in the management of the Sick Party, such a temperate *Medium* be observed, as neither puts the Humours into too great a Conflagration by over-heating them, nor yet hinders their motion by the use of such things, as are either too cool or restraining; or that give the Body any such Evacuation as may cause so great an omission of Spirits, that on their defect, the work of Despumation is with ill success carried on; for which reason letting Blood, especially in our *Northern* Climates, where the heat is only such as serves to advance, not dissipate, the Spirits, as perhaps its violent extremity under the *Torrid Zone* may be subject to do. For being constantly exposed to the Air, and suffered to take in plentiful draughts of cooling Liquors, being but a new mode, naught but success can render it any ways worthy of imitation; our reason telling us, that where there is a Peccant Matter to be expelled, the safest way is to preserve the Body in such a temperate Condition, that Nature

ture may not be too much exasperated by our indeavours to promote it by any overheating Medicines, or a pent and fuliginous Air; so on the contrary she may not be check'd, whilst about so needful a work by any means either Internal or External, that may indanger the hindring of her proceedings; Which in all probability to free an admission to the open Air, and the restraining her motion by cooling Medicines would be likely to do. The Argument used in its defence (which is all that can be said for it) being that the use of hot things and a close Air causes so high an Ebullition of the Blood, that perverting more of it, then Nature first intended, it renders the Matter, to be expell'd by the Pustules, more then she is able to discharge that way; which (for the reasons formerly alledg'd) proves the cause of dangerous and mortal Symptomes. Which although true, where such things are done irregularly, it is however no Universal rule; we finding many (nay the most of Bodies) either from the pain they feel, the consternation the apprehended danger puts them in, or the natural Inactivity of Body, so dispirited, that without some assistance from temperate, and convenient Alexipharmical remedies, the operation succeeds ill, and both the Phy-

sitian and his proceedings (as in this case often happens) justly blamed.

§. 18. As for the compleating the frame of the Universe, there seems to be a *Medium* between each Species of Sublunary Beings, which in some measure participates of the Nature of either; so in the Disease we are now about to Treat of, seems to have a congruity with Pestilential and Malignant Feavers, both as it hath its Original from something Incongruous to the Blood, as also that it multiplies its Species by a Communication of its self from one individual to another; as on the contrary, from its not so frequently proving Mortal, and having in them nothing participating of Venome, they do with ordinary Feavers. From whence we may conclude, that they have their Originals from something more Congruous to humane Nature, then the one, although of a greater disparity then the other; being composed of such a Matter, that although it cannot, with the speed of Pestilentials, kill without a Feaver; yet being from a something much more depraved, then what causes ordinary Sporadick Diseases, it not only assails with more violence, but also from the unusualness of the attending Symptoms, strikes a greater  
terror

terror on all it surprizes. Which Symptoms (however they afflict the Patient) do not only assist the Physitian) to judge, whether the Matter offending be Sulphureous, Saline, or the like, but also lets him know, that they are the Products of a Matter more innocent, then those whose operation is apparently venomous; and such, which although it never had any affinity to Human Bodies, is notwithstanding no otherwise discordant, then as it was rendred so by some intemperance of the preceding season, and that principally of Heat and Moisture. By the first of which, as the igneous Atoms are more plentifully Disseminated, so by the other the Vehicle on which they enter Human Bodies, being of a more lax compages, then is requisite, they not only suffer a more facile Expansion when mix'd with the Blood, but also imparting to it the superfluous moisture of the Vehicle, they render the whole Mass so unfit for Assimilation, that Nature is forc'd to accelerate the Motion of the Blood for its seperation. Which intended Motion (giving the Heart that Perturbation we call the Feaver) holds till either the Febrile Matter, according to the proportion of its Particles, is precipitated, or otherwise Symptomatically carried off to some improper Sal-

Or else till the Morbifick Matter (which rarely happens in Epidemicks) by Coction separated from the useful parts of the Blood is reduced to such a position, as we call Putrefaction; in which state being capable of separation, it leaves the remaining Mass to circulate peaceably.

§. 19. There being but few years past over, but either in the *Spring* or *Autumn*, there appears some Feaver, which from the unusualness of the Symptoms, it is attended with, gains the title of a new Disease. Most of which although reduceable to some Type of ordinary Feavers; yet although from the foremention'd unusual Symptoms they are not very improbably so stiled; notwithstanding that, as also their ordinary communication of themselves by Infection, I shall endeavour to vindicate from the imputation of Malignity, and to prove that their antecedent causes are from such an alteration in the Blood and Humours, as renders the Receptacles in either of them fit to receive such Atomes as the preceding intemperance of the Season had (for the reasons delivered in the former Section) rendered of a Figure Discordant to the Pores of the Blood, which every Sex, Age, or Constitution being not always alike capable of doing, makes many of these Epidemicks  
more



more apt to seize either Children or more aged People, though for the most part the Morbifick *Diatheſis* both of the Ambient Air and Internal Humours, is ſo univerſal, that but few of either Sex or Age, but (for the Cauſes I ſhall preſently mention) may be obnoxious to it, and yet the Diſeaſe carry nothing in it of venome, nor ſo much as an ordinary Malignity, more then what is cauſed by ſome error in managing it. Malignant Feavers, as a Modern Author hath well obſerved, being a Diſeaſe not ſo frequently ſeen as they are conceived to be, what is too often reputed ſo (to uſe the words of the ſame Author) *Non a venoſa morbi indole, ſed a Therapia perperam adminiſtrata*, it being much more likely, that either the ignorance of the Phyſitian, or the Morbifick habit of the Body aſſailed, is the cauſe of thoſe violent and often Mortal Symptomes. Whence we conclude the Diſeaſe Malignant, that terme according to *Senertus Lib. 4. de feb. cap. 6.* being rather attributed to Diſeaſes *A morboſo humorum apparatu*, then to any venemous Effluviūms, and conſequently the Cauſe of it not to be imputed to any exotick Venome: Which ſhould it be, as it then would differ no more from a true Peſtilence, then only in what we call Intention and Remiſſion, it were

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impoſſible,

impossible, but, being generally spread through a whole Region, by its frequent encountring Cachochemical and fowl Bodies it would in time advance its venemous Effluvioms to their highest Malignity, and prove equally dangerous to the Plague it self. Which never finding any ordinary Epidemick to do, gives me reason to think, that although they have their Originals from a Matter absolutely Preternatural, it is however so far from being venemous, that it is only such a mutation of the Nitrous and Sulphureous Parts floating in the Air, as although it renders it not so discordant to the Pores of our Blood as to give them a disturbance equal to Venemous Effluvioms; yet some indisposition of the Air hath so much altered their Texture from that of her ordinary Atomes, that they not only become unfit assistants to Concoction, but also of so disproportion'd a Figure, that either by an easie Volatilization, or precipitation, forcing their own way by an unusual and Symptomatical Motion, they anticipate Natures indeavour of ejecting them by her proper Saliports, and gain to themselves a denomination peculiar to that Symptome, they so unseasonably appear in, it being from hence that sometimes the advanced supplies cause insufferable Conflagrations, with

with other accidents depending on a Matter easily apt to Inflamm. Sometimes excessive moisture of the Air being without a *Medium* succeeded by violent heats, one advancing the Aqueous part, the other the Sulphureous; the Blood indeavours its Despumation by that we call a Catharral Feaver; at other times the more active Matter translated to the Nerves, it proves the Author of various Cephalick Distempers, or else (if of a composition more Saline and apt to precipitate) taking its way by the descending Trunk of the *Aorta*, it is thrown into the parts subservient to the first and second Concoction, where it appears in Cardialgiaes, sharp and acrid *Diarheas*, bastard Cholicks, &c. Either of which Distempers (as what in the present Disease appears most formidable) is rather look'd on by vulgar spectators as the Disease it self then the Symptome.

§. 20. Notwithstanding the *intemperies* in the Air, the aptitude in our Blood and Humors, or whatever else it is that renders these Diseases Epidemical, these sort of Feavers (waving the accidental Symptoms) do as Pestilentials and all other that are caused by any Exotick Intruders, always appear under some such Type, as the pre-

sent temper of the Blood, whether Bilious, Phlegmatick or the like, is most apt to receive. It being apparent, that whatever the way of reception was, the Despumation is attempted, either by Ebullition or Fermentation, according as the Body assaulted is prepared for their Expulsion, which although it is by either performed with much more danger, then in ordinary Feavers, yet with much less then in Pestilentials, those giving death to the firmest Bodies, Epidemics for the most part but to such as are rendred infirm either by Age or some preceding ill habit of Body; yet all of them causing such an universal disorder of the Blood, that 'opprest Nature is frequently forc'd to an irregular expulsion of a Matter so noxious both to the Animal and Vital Faculties: this being most manifest in such of these Feavers as come nearest to a perfect intermission; where the Paroxisme begins without shaking, and ends without sweat; the Saline part of the Blood by these extraneous Particles being put into a *Fluor* precipitating so much of its *Serum*, that the Vessels carrying in them a Matter not sufficiently dilated with its Aqueous Vehicle, and that also Acrid and Saline, as it is the cause of excessive Heats and intense droughth, so it prohibits the Cold and shaking which ought

ought to begin the Fit ; as also those plentiful Sweats which should naturally conclude it. In stead of which they either reſtagnate in the Breast, cauſing pains about the *Fræcordia*, and Inſlamations of the Lungs, or transferring themſelves to the *Genus Nervosum*, lay there the foundation of *Stupors*, *Deliriums*, and other dangerous Diſtempers. All which irregular proceedings argue the cauſe of theſe Epidemick Diſeaſes to be from ſome alteration in our Blood, not depending on any ſuch Heterogeneous parts, whence an ordinary *Synochus* proceeds, or what the defect of any Excretory Veſſel hath Saturated it with, as Periodicals, but only from ſome ſuch preceding alteration either in the Air we breath, or Aliment we receive ; as hath both by relaxing its Fibers, and altering its Texture, rendred the Blood capable of receiving it, as alſo by impregnating the Atmoſphear with a Matter, more then ordinary apt, to aſſault it, and ſuch (as althoough compoſed of venomous Effluvia) ſo augments its depraved condition, when once entred its Pores, that it renders it liable to all the dreadful Symptoms attending the Epidemick of that ſeaſon : Whoſe Procatartick cauſe I have thus proved to be from a Heterogeneous Matter vitiating the Air, an aptneſs in the Pores of the Body  
to

to receive that Matter, the Antecedent, and such a laxity of the Fibers of the Blood as renders it easily possessed by them, the Con-junct and more immediate cause. From which predisposition of Body it comes to pass, that not only in these, but all other Epidemick Diseases, every slight Distemper is apt to degenerate into them.

§. 21. Having thus far indeavoured to make it appear, that these Diseases spread not their infection by any Venemous Effluiums, but rather by that propensity most Bodies have of receiving those depraved Particles, which from an incongruity of the Elements are become its seminal Principles, especially such, as breathing all one Air, and feeding for the most part on one sort of Aliment have (from a consimular nourishment) their humours apt to the same kind of Motion with the sick party; to which (if of their relations) adding the Sollicitude, and care they have of their health, frequent watching and other means, by which the disturb'd humours still become less able to defend themselves, such persons are always most apt to be assaulted, it being from hence that the common opinion of Diseases running in a Blood proceeds, they many times going round families, especially  
amongst

amongst those of a parity in Sex, Age, Constitution, &c. From which frequency of communicating it self, it acquires (through as I think undeservedly) the scandal of being Contagious, as from its unusual and surprizing Symptoms, it doth that of Malignity.

§. 22. It being in this sort of Feavers that the Symptoms differing from what they ordinarily are under that Type, in which the Feaver appears, when not Epidemick, that the Physitian ought to use the best both of his care and skill in discovering which is first to be opposed, the Disease or the Symptome; it being sometimes required, that although not wholly neglecting the Feaver, he be most sedulous on suppressing the Concomitant Accident, at other times the contrary; either of which seasons are to be distinguish'd according to what at the present most Afflicts the Body; since if from the Feaver and its ordinary accidents, and in the mean time the Annual Symptom, which signalizes the Disease, be but gentle, or such as is like to convey the Peccant Matter to some ignoble part, that is to be left to Nature, whilst our whole indeavour is applyed to the suppressing the Feaver, and gently expelling  
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of the Peccant Matter by the most convenient Passages. Which sometimes cannot be so well done any other way, as by promoting the Epidemick Symptome, as is often with safety done, when the Feaver tends to its Despumation, by expectorating the Moabifick Matter in a troublesome but imperfect Cough, or when it languidly in-deavours its Ejection in a slow but Acrid *Diarrhea*. On the contrary, as all such attempts must be done with so exact a care, that we do not too violently rouse the sleeping Lyon; so if by the Primitive violence of the Symptomick Motion, the Febrile Matter be so impetuously hurried to that part, that it makes the Feaver seem remiss, whilst the Symptome threatens an imminent danger; although it depended first wholly on the Feaver, that causing the first commotion, by which the Blood disturbs the Heart, the Symptome depending but on that form, which fits the Peccant Matter for such or such ways of ejection: Which however doth often (as if by an Usurped Authority) so far exceed the vigor of the Feaver it self, that acquiring forces enough of its own to batter the fortresses of Life, the suppressing of the Feaver, as to allaying them is to no more purpose attempted, then if you went about to hinder the Flux  
of



of Waters from an Inundation made in a spacious Lake, by stopping the Rivolet from whose flow supplies they were first accumulated, or to allay the flames raging in a populous City by withdrawing the coales that first set it on fire. For the manner of handling either the Disease or the Symptome, according as the present state of the Body requires, they are to be found in their peculiar Chapters, to which the Type of the one and Title of the other will direct, with which I shall not only conclude the present Chapter, but also this part of my History of Feavers. In which, if I have discovered any thing that may be for the general good, I have what was my end in Composing it, and shall give God the Glory for enabling me in its performance.

**F I N I S.**